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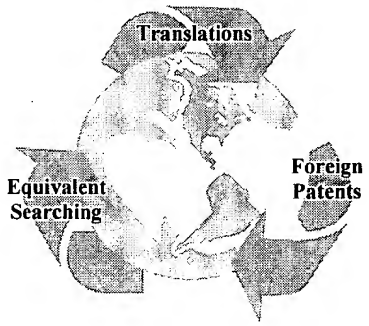

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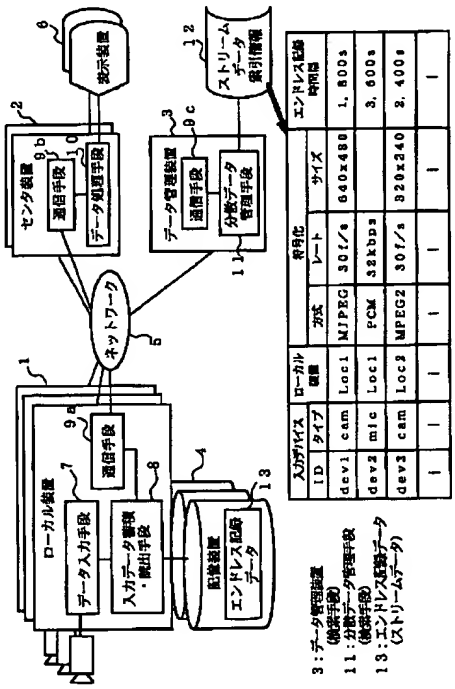
(54)【発明の名称】　データ収集方法および監視装置

(57)【要約】

【課題】　センタ装置は、ストリームデータの所在確認を当該ストリームデータを記憶するネットワーク上の記憶装置全てに問い合せるため、多数の記憶装置が前記ネットワーク上に存在していると前記問い合せに時間を要する課題があった。

【解決手段】　ネットワーク上のメディアに記録されたストリームデータの所在についてのストリームデータ索引情報を前記ネットワーク上で集中的に管理し、前記ストリームデータ索引情報を検索条件をもとに検索しストリームデータの所在についての検索結果を得て、前記検索条件を満足するストリームデータの所在を知り、前記メディアから前記検索条件を満足するストリームデータを収集する。



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【特許請求の範囲】

【請求項1】　監視対象についてそれぞれ得られたストリームデータをネットワーク上の限られた記憶量のメディアにそれぞれ記録する記憶過程と、

該記憶過程により前記メディアに記録されている前記ストリームデータの所在についてのストリームデータ索引情報を前記ネットワーク上で集中的に管理する管理過程と、

該管理過程で集中的に管理されている前記ストリームデータ索引情報を検索条件をもとに検索しストリームデータの所在についての検索結果を得る検索過程と、

該検索過程による検索結果をもとに、前記検索条件を満足するストリームデータの所在を取得するストリームデータ所在取得過程と、

該ストリームデータ所在取得過程により取得した前記検索条件を満足するストリームデータの所在をもとに、当該ストリームデータを記録した前記メディアから前記ストリームデータを取得して前記監視対象についてのストリームデータを収集するストリームデータ取得過程とを備えたデータ収集方法。

【請求項2】　記憶過程では、限られた記憶量のメディアをエンドレスに使用することで、監視対象についてそれぞれ得られた時間的に連続しているストリームデータをネットワーク上に分散した前記メディアにそれぞれ記録し、

管理過程では、ネットワーク上に分散した前記メディアに前記ストリームデータがそれぞれエンドレスで記録される際の前記メディアの記憶容量に応じた記録時間幅を含むストリームデータ索引情報をもとに前記それぞれのストリームデータの所在についての管理を行い、

検索過程では、前記記録時間幅を含む前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索し、

前記ストリームデータ所在取得過程では、前記時刻を含む検索条件を満足する前記ストリームデータの所在についての検索結果を取得することを特徴とする請求項1記載のデータ収集方法。

【請求項3】　記憶過程では、監視対象についてそれぞれ得られたストリームデータを、ネットワーク上に分散した限られた記憶量のメディアにそれぞれイベント記録し、

管理過程では、ネットワーク上に分散した前記メディアに前記ストリームデータがそれぞれイベント記録された際のイベント発生時刻および記録時間についての区間を含むストリームデータ索引情報をもとに前記それぞれのストリームデータの所在についての管理を行い、

検索過程では、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するイベント記録されたストリームデータの所在を検索し、

前記ストリームデータ所在取得過程では、前記時刻を含む検索条件を満足するイベント記録されたストリームデータの所在についての検索結果を取得することを特徴とする請求項1または請求項2記載のデータ収集方法。

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【請求項4】　管理過程では、ネットワーク上に分散したメディアにストリームデータがそれぞれイベント記録された際のイベント発生時刻および当該イベント発生時刻前後の記録時間幅を含むストリームデータ索引情報をもとに、イベント記録されたストリームデータの所在についての管理を行うことを特徴とする請求項3記載のデータ収集方法。

【請求項5】　限られた記憶量のメディアをエンドレスに使用することで、記憶過程によりネットワーク上に分散した前記メディアにそれぞれ記録された、監視対象についてそれぞれ得られた時間的に連続しているストリームデータを、退避保存用メディアに再記録して退避保存する退避保存過程と、

該退避保存過程で再記録した前記ストリームデータを、当該ストリームデータの前記メディアへエンドレスで記録された際の記録時間区間を含むストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理する退避保存管理過程とを備え、

管理過程では、前記退避保存用メディアに再記録された前記ストリームデータが前記メディアへエンドレスで記録された際の記録時間区間を含むストリームデータ索引情報をもとに、前記退避保存用メディアに再記録されている前記ストリームデータの所在についての管理を行い、

検索過程では、前記記録時間区間を含む前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用メディアについての所在を検索し、

前記ストリームデータ所在取得過程では、前記検索条件を満足する前記ストリームデータを再記録している前記退避保存用メディアについての検索結果を取得し、

ストリームデータ取得過程は、前記ストリームデータ所在取得過程により取得した前記検索結果をもとに、当該ストリームデータを再記録した前記退避保存用メディアから前記退避保存管理過程により管理されている前記ストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項1から請求項4のうちのいずれか1項記載のデータ収集方法。

【請求項6】　記憶過程によりネットワーク上に分散したメディアにそれぞれイベント記録された、監視対象についてそれぞれ得られたストリームデータを、退避保存用メディアに再記録して退避保存する退避保存過程と、

該退避保存過程で再記録した前記ストリームデータを、当該ストリームデータの前記メディアにイベント記録さ

れた際のイベント発生時刻および記録時間幅を含むストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理する退避保存管理過程とを備え、

管理過程では、前記退避保存用メディアに再記録された前記ストリームデータが前記メディアにイベント記録された際のイベント発生時刻および記録時間幅を含むストリームデータ索引情報をもとに前記退避保存用メディアに再記録されている前記ストリームデータの所在についての管理を行い、

検索過程では、前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用メディアについての所在を検索し、

前記ストリームデータ所在取得過程では、前記検索条件を満足する前記ストリームデータを再記録している前記退避保存用メディアについての検索結果を取得し、

ストリームデータ取得過程は、前記ストリームデータ所在取得過程により取得した前記検索結果をもとに、当該ストリームデータを再記録した前記退避保存用メディアから前記退避保存管理過程により管理されている前記イベント記録によるストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項1から請求項5のうちのいずれか1項記載のデータ収集方法。

【請求項7】　ネットワーク上の時刻を統一するための時刻統一過程を備え、

管理過程では、ネットワーク上に分散したメディアにそれぞれ記録されているストリームデータの所在を、前記時刻統一過程で統一化した時刻をもとにストリームデータ索引情報により管理し、

検索過程では、前記統一化した時刻による指定を含む検索条件をもとに前記ストリームデータ索引情報に対し前記検索条件を満足するストリームデータの所在を検索し、

前記ストリームデータ所在取得過程では、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在についての検索結果を取得することを特徴とする請求項2から請求項6のうちのいずれか1項記載のデータ収集方法。

【請求項8】　ネットワーク上で分散してそれぞれ行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記現在時刻情報の授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定過程と、

前記ストリームデータの処理で使用している時刻についての補正値を、前記時刻差測定過程で測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算過程とを備え、

管理過程では、ネットワーク上に分散したメディアにそれぞれ記録されているストリームデータのストリームデータ索引情報をもとに前記それぞれのストリームデータの所在を管理するとともに前記補正値演算過程で求めた補正値を管理し、

検索過程では、前記ストリームデータ索引情報に対し、検索条件として指定される時刻や検索結果における時刻を前記管理過程で管理している前記補正値をもとに補正して、前記検索条件を満足するストリームデータの所在を検索し、

ストリームデータ所在取得過程では、前記検索過程で検索が行われた際に補正されたストリームデータの所在についての前記ストリームデータ索引情報の検索結果を取得し、

ストリームデータ取得過程では、前記ストリームデータ所在取得過程により取得した前記検索結果をもとに前記検索条件を満足するストリームデータを記録した前記メディアから当該ストリームデータを取得することを特徴とする請求項2から請求項6のうちのいずれか1項記載のデータ収集方法。

【請求項9】　ストリームデータ取得過程は、ストリームデータ所在取得過程において取得した補正されたストリームデータ索引情報の検索結果をもとに、検索条件を満足するストリームデータを記録したメディアから前記ストリームデータを取得する際の前記メディアとの間で生じているメディア間時間差を知り、当該メディア間時間差をもとに補正した検索条件を満足するストリームデータを記録した前記メディアから当該ストリームデータを取得することを特徴とする請求項7または請求項8記載のデータ収集方法。

【請求項10】　ネットワーク上の時刻を統一するための時刻統一過程を備え、

退避保存管理過程では、退避保存過程で再記録した前記ストリームデータを、前記時刻統一過程で統一した時刻をもとに管理し、

管理過程では、退避保存用メディアに再記録されているストリームデータの所在を前記時刻統一過程で統一化した時刻をもとにしたストリームデータ索引情報により管理し、

検索過程では、前記ストリームデータ索引情報に対し、前記統一化した時刻による指定を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を退避保存用メディアについて検索し、

前記ストリームデータ所在取得過程では、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在を前記検索の結果から取得することを特徴とする請求項5から請求項9のうちのいずれか1項記載のデータ収集方法。

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【請求項11】　ネットワーク上で分散してそれぞれ行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記現在時刻情報の授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定過程と、
前記ストリームデータの処理で使用している時刻についての補正値を、前記時刻差測定過程で測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算過程とを備え、
管理過程では、退避保存用メディアに再記録されているストリームデータのストリームデータ索引情報をもとに前記ストリームデータの所在を管理するとともに前記補正値演算過程で求めた補正値を管理し、
検索過程では、前記ストリームデータ索引情報に対し検索条件として指定される時刻や検索結果における時刻を前記管理過程で管理している前記補正値をもとに補正して、前記検索条件を満足するストリームデータの前記退避保存用メディアについての所在を検索し、
ストリームデータ所在取得過程では、補正された前記ストリームデータの所在についての前記ストリームデータ索引情報の検索結果を取得し、
ストリームデータ取得過程では、前記ストリームデータ所在取得過程により取得した前記検索結果をもとに、前記検索条件を満足するストリームデータを記録した前記退避保存用メディアから退避保存管理過程により管理されている当該ストリームデータを取得することを特徴とする請求項5から請求項9のうちのいずれか1項記載のデータ収集方法。
【請求項12】　補正値演算過程は、現在時刻情報の授受を行うのに要した伝送時間による伝送時間差を含む時刻差をもとに補正値を求めることを特徴とする請求項8または請求項11記載のデータ収集方法。
【請求項13】　ストリームデータ取得過程は、ストリームデータ所在取得過程において取得した補正されたストリームデータ索引情報の検索結果をもとに、検索条件を満足するストリームデータを記録した退避保存用メディアから前記ストリームデータを取得する際の前記退避保存用メディアとの間で生じているメディア間時間差を知り、当該メディア間時間差をもとに検索条件を満足するストリームデータを記録した前記退避保存用メディアから当該ストリームデータを取得することを特徴とする請求項11または請求項12記載のデータ収集方法。
【請求項14】　管理過程では、ネットワーク上に分散したメディアにそれぞれエンドレスで記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記それぞれのストリームデータの所在を管理し、
検索過程では、前記ストリームデータ索引情報に対し、

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時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索し、
前記ストリームデータ所在取得過程では、前記検索条件を満足する前記ストリームデータ索引情報の検索結果を取得することを特徴とする請求項2から請求項9のうちのいずれか1項記載のデータ収集方法。
【請求項15】　検索過程では、ストリームデータ索引情報に対し、ストリームデータを特定する時刻および時間的な幅を含む検索条件と現在時刻とをもとに当該検索条件を満足するストリームデータの所在を検索し、
ストリームデータ所在取得過程では、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とを含むストリームデータの所在についての検索結果を取得することを特徴とする請求項14記載のデータ収集方法。
【請求項16】　ストリームデータ所在取得過程では、検索条件を満足するストリームデータの記録開始時刻と記録終了時刻、および前記検索条件を満足するストリームデータを記録したメディアのエンドレス記録時間幅を含むストリームデータの所在についての検索結果を取得することを特徴とする請求項15記載のデータ収集方法。
【請求項17】　管理過程では、ネットワーク上に分散したメディアにそれぞれエンドレス記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記それぞれのストリームデータの所在を管理し、
検索過程では、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを検索条件として当該検索条件を満足するストリームデータの所在を検索し、
前記ストリームデータ所在取得過程では、前記検索条件を満足する前記ストリームデータ索引情報の検索結果を取得することを特徴とする請求項1記載のデータ収集方法。
【請求項18】　管理過程では、ストリームデータをイベント記録したメディア毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在を管理し、
検索過程では、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するイベント記録されているストリームデータの所在を検索し、
前記ストリームデータ所在取得過程では、前記検索条件

を満足するイベント記録されているストリームデータの所在についての検索結果を取得することを特徴とする請求項3から請求項9のうちのいずれか1項記載のデータ収集方法。

【請求項19】　検索過程では、イベント記録されているストリームデータの所在を前記イベント記録の時間区間を含む検索条件をもとにストリームデータ索引情報に対し検索を行い、

ストリームデータ所在取得過程では、前記検索条件におけるイベント記録の前記時間区間にイベント記録時間の全部または一部が含まれるイベント記録されているストリームデータの所在についての検索結果を取得することを特徴とする請求項18記載のデータ収集方法。

【請求項20】　管理過程では、ストリームデータをイベント記録したメディア毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在を管理し、

検索過程では、前記イベント識別子や前記タイプなどのイベントそのものについての情報、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などの検索条件をもとに当該検索条件を満足するイベント記録されているストリームデータの所在を検索し、

前記ストリームデータ所在取得過程では、前記検索条件を満足するイベント記録されているストリームデータの所在についての検索結果を取得し、

ストリームデータ取得過程は、前記トリームデータ所在取得過程により取得した前記検索条件を満足するストリームデータの所在をもとに、当該ストリームデータを記録した前記メディアから前記ストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項1または請求項17記載のデータ収集方法。

【請求項21】　管理過程では、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、タイプ、前記ストリームデータが得られた端末、ならびに退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いなどによるストリームデータ索引情報をもとに、前記エンドレス記録によるストリームデータの前記退避保存用メディアについての所在を管理し、

検索過程では、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記ストリームデータの前記退避保存用メディアについての所在を検索し、

前記ストリームデータ所在取得過程では、前記検索条件を満足する前記ストリームデータの前記退避保存用メディアについての所在についての検索結果を取得することを特徴とする請求項5、請求項6および請求項10から請求項13のうちのいずれか1項記載のデータ収集方法。

【請求項22】　検索過程では、ストリームデータ索引情報に対し、エンドレス記録されたストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足する前記ストリームデータの退避保存用メディアについての所在を検索し、

ストリームデータ所在取得過程では、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの前記退避保存用メディアについての所在を取得することを特徴とする請求項21記載のデータ収集方法。

【請求項23】　管理過程では、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られた端末、ならびに退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いを示すタイプなどによるストリームデータ索引情報をもとに、前記ストリームデータの前記退避保存用メディアについての所在を管理し、

検索過程では、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られた端末などを検索条件として当該検索条件を満足するストリームデータの退避保存用メディアについての所在を検索し、

前記ストリームデータ所在取得過程では、前記検索条件を満足する前記ストリームデータの退避保存用メディアについての検索結果を取得し、

ストリームデータ取得過程は、前記ストリームデータ所在取得過程により取得した前記検索条件を満足するストリームデータの退避保存用メディアについての所在をもとに、当該ストリームデータを記録した退避保存用メディアから前記ストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項1記載のデータ収集方法。

【請求項24】　管理過程では、退避保存用メディアへ

再記録されたイベント記録によるストリームデータに対する退避保存識別子、退避保存用メディアの区別情報、前記ストリームデータの種類および、退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報などによるストリームデータ索引情報をもとに前記イベント記録によるストリームデータの前記退避保存用メディアについての所在を管理し、
検索過程では、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記イベント記録によるストリームデータの前記退避保存用メディアについての所在を検索し、
前記ストリームデータ所在取得過程では、前記検索条件を満足するストリームデータの前記退避保存用メディアについての所在を取得することを特徴とする請求項５、請求項６、請求項１０から請求項１３および請求項２１から請求項２３のうちのいずれか１項記載のデータ収集方法。
【請求項２５】　検索過程では、ストリームデータ索引情報に対し、ストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足するストリームデータの退避保存用メディアについての所在を検索し、
ストリームデータ所在取得過程では、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの所在を退避保存用メディアについて取得することを特徴とする請求項２４記載のデータ収集方法。
【請求項２６】　管理過程では、イベント記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプ、前記ストリームデータが得られた端末、ならびに退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたイベント記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いなどによるストリームデータ索引情報をもとに、前記イベント記録によるストリームデータの前記退避保存用メディアについての所在を管理し、
検索過程では、前記ストリームデータ索引情報の前記ヘッダ情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプまたは前記ストリームデータが得られた端末などを検索条件として当該検索条件を満足する前記ストリームデータの退避保存用メディアについての所在を検索し、
前記ストリームデータ所在取得過程では、前記検索条件を満足する前記ストリームデータの退避保存用メディアについての所在を取得し、
ストリームデータ取得過程は、前記ストリームデータ所在取得過程により取得した前記検索条件を満足する前記ストリームデータの退避保存用メディアについての所在をもとに、当該ストリームデータを記録した退避保存用メディアから前記ストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項１または請求項２３記載のデータ収集方法。
【請求項２７】　監視対象について得られたストリームデータをネットワーク上の限られた記憶量の記憶装置に記録する前記ネットワーク上に分散して配置されたローカル装置と、
該ローカル装置により前記記憶装置へ記録されている前記ストリームデータの所在についてのストリームデータ索引情報を前記ネットワーク上で集中的に管理するデータ管理装置と、
該データ管理装置で集中的に管理されている前記ストリームデータ索引情報を検索条件をもとに検索する検索手段と、
該検索手段による検索結果により取得した前記ストリームデータの所在をもとに、当該ストリームデータを記録した前記記憶装置から前記ストリームデータを得て前記監視対象についてのストリームデータを収集するセンタ装置と、
前記ネットワーク上で前記ストリームデータなど各種情報の送受信を行うための通信手段とを備えた監視装置。
【請求項２８】　ローカル装置は、限られた記憶量の記憶装置をエンドレスに使用することで、監視対象について得られた時間的に連続しているストリームデータをネットワーク上の前記記憶装置に記録し、
データ管理装置は、前記ネットワーク上の前記記憶装置に前記ストリームデータがそれぞれエンドレスで記録される際の前記記憶装置の記憶容量に応じた記録時間幅を含むストリームデータ索引情報をもとに前記ストリームデータの所在についての管理を行い、
検索手段は、前記記録時間幅を含む前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索し、
前記センタ装置は、前記時刻を含む検索条件を満足する前記ストリームデータの所在についての検索結果により取得した前記ストリームデータの所在をもとに、当該ストリームデータを記録した前記記憶装置から前記ストリームデータを得て前記監視対象についてのストリームデータを収集することを特徴とする請求項２７記載の監視装置。
【請求項２９】　ローカル装置は、監視対象について得られたストリームデータを、ネットワーク上の限られた記憶量の記憶装置にイベント記録し、
データ管理装置は、前記ネットワーク上の前記記憶装置に前記ストリームデータがイベント記録された際のイベ

ント発生時刻および記録時間についての区間を含むストリームデータ索引情報をもとに前記ストリームデータの所在についての管理を行い、
検索手段は、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するイベント記録されたストリームデータの所在を検索し、
センタ装置は、前記時刻を含む検索条件を満足するイベント記録されたストリームデータの所在についての検索結果をもとに、当該ストリームデータを記録した前記記憶装置から前記ストリームデータを得て前記監視対象についてのストリームデータを収集することを特徴とする請求項２７または請求項２８記載の監視装置。

【請求項３０】　データ管理装置は、ネットワーク上の記憶装置にストリームデータがイベント記録された際のイベント発生時刻および当該イベント発生時刻前後の記録時間幅を含むストリームデータ索引情報をもとに、前記イベント記録されたストリームデータの所在についての管理を行うことを特徴とする請求項２９記載の監視装置。

【請求項３１】　限られた記憶量の記憶装置をエンドレスに使用することで当該記憶装置に記録された、監視対象について得られた時間的に連続しているストリームデータを、退避保存用記憶装置に再記録して退避保存する退避保存手段と、
該退避保存手段により前記退避保存用記憶装置へ再記録した前記ストリームデータを、当該ストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理する退避保存管理手段とを備え、
データ管理装置は、前記退避保存用記憶装置に再記録された前記ストリームデータが前記記憶装置へエンドレスで記録された際の記録時間区間を含むストリームデータ索引情報をもとに、前記退避保存用記憶装置に再記録されている前記ストリームデータの所在についての管理を行い、
検索手段では、前記記録時間区間を含む前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用記憶装置についての所在を検索し、
前記センタ装置は、前記検索条件を満足する前記ストリームデータを再記録している前記退避保存用記憶装置についての検索結果をもとに、当該ストリームデータを再記録した前記退避保存用記憶装置から前記退避保存管理手段により管理されている前記ストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項２７から請求項３０のうちのいずれか１項記載の監視装置。

【請求項３２】　記憶装置へイベント記録された、監視対象について得られたストリームデータを、退避保存用記憶装置に再記録して退避保存する退避保存手段と、
該退避保存手段により再記録した前記ストリームデータを、当該ストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理する退避保存管理手段とを備え、
データ管理装置は、前記退避保存用記憶装置に再記録された前記ストリームデータが前記記憶装置にイベント記録された際のイベント発生時刻および記録時間幅を含むストリームデータ索引情報をもとに、前記退避保存用記憶装置に再記録されている前記ストリームデータの所在についての管理を行い、
検索手段は、前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用記憶装置についての所在を検索し、
前記センタ装置は、前記検索条件を満足する前記ストリームデータを再記録している前記退避保存用記憶装置についての検索結果をもとに、当該ストリームデータを再記録した前記退避保存用記憶装置から前記退避保存管理手段により管理されている前記イベント記録によるストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項２７から請求項３１のうちのいずれか１項記載の監視装置。

【請求項３３】　ネットワーク上のローカル装置、データ管理装置、センタ装置などの時刻を統一するための時刻合致手段を備え、
データ管理装置では、前記ネットワーク上の記憶装置に記録されているストリームデータの所在を、前記時刻合致手段により統一化した時刻をもとにストリームデータ索引情報により管理し、
検索手段は、前記統一化した時刻による指定を含む検索条件をもとに前記ストリームデータ索引情報に対し前記検索条件を満足するストリームデータの所在を検索し、
センタ装置は、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在についての検索結果を取得することを特徴とする請求項２８から請求項３２のうちのいずれか１項記載の監視装置。

【請求項３４】　ネットワーク上でそれぞれ行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記現在時刻情報の授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定手段と、
前記ストリームデータの処理で使用している時刻についての補正値を、前記時刻差測定手段により測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算手段とを備

え、
データ管理装置は、前記ネットワーク上の記憶装置に記録されているストリームデータのストリームデータ索引情報をもとに前記それぞれのストリームデータの所在を管理するとともに前記補正値演算手段が求めた補正値を管理し、
検索手段は、前記ストリームデータ索引情報に対し、検索条件として指定される時刻や検索結果における時刻を前記データ管理装置が管理している前記補正値をもとに補正して、前記検索条件を満足するストリームデータの所在を検索し、
センタ装置は、前記検索手段により検索が行われた際に補正されたストリームデータの所在についての前記ストリームデータ索引情報の検索結果をもとに前記検索条件を満足するストリームデータを記録した前記記憶装置から当該ストリームデータを取得することを特徴とする請求項２８から請求項３２のうちのいずれか１項記載の監視装置。

【請求項３５】　センタ装置が取得した補正されたストリームデータ索引情報の検索結果をもとに、当該センタ装置は検索条件を満足するストリームデータを記録した記憶装置から前記ストリームデータを取得する際の前記記憶装置との間で生じているメディア間時間差を知り、当該メディア間時間差をもとに補正した検索条件を満足するストリームデータを記録した前記記憶装置から当該ストリームデータを取得することを特徴とする請求項３３または請求項３４記載の監視装置。

【請求項３６】　ネットワーク上のローカル装置、データ管理装置、センタ装置などにおける時刻を統一するための時刻合致手段を備え、
退避保存管理手段は、退避保存手段により再記録したストリームデータを、前記時刻合致手段により統一した時刻をもとに管理し、
データ管理装置は、退避保存用記憶装置に再記録されているストリームデータの所在を前記時刻合致手段により統一化した時刻をもとにしたストリームデータ索引情報により管理し、
検索手段は、前記ストリームデータ索引情報に対し、前記統一化した時刻による指定を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を退避保存用記憶装置について検索し、
前記センタ装置は、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在についての検索結果を取得し、該検索結果をもとに退避保存用記憶装置から前記検索条件を満足するストリームデータを取得することを特徴とする請求項３１から請求項３５のうちのいずれか１項記載の監視装置。

【請求項３７】　ネットワーク上で分散してそれぞれ行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記現在時刻情報の授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定手段と、
前記ストリームデータの処理で使用している時刻についての補正値を、前記時刻差測定手段により測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算手段とを備え、
データ管理装置は、退避保存用記憶装置に再記録されているストリームデータのストリームデータ索引情報をもとに前記ストリームデータの所在を管理するとともに前記補正値演算手段により求めた補正値を管理し、
検索手段は、前記ストリームデータ索引情報に対し、検索条件として指定される時刻や検索結果における時刻を前記データ管理装置で管理している前記補正値をもとに補正して、前記検索条件を満足するストリームデータの前記退避保存用記憶装置についての所在を検索し、
センタ装置は、前記検索手段により検索が行われた際に補正された前記ストリームデータの所在についての前記ストリームデータ索引情報の検索結果をもとに、前記検索条件を満足するストリームデータを記録した前記退避保存用記憶装置から退避保存管理手段により管理されている当該ストリームデータを取得することを特徴とする請求項３１から請求項３５のうちのいずれか１項記載の監視装置。

【請求項３８】　補正値演算手段は、現在時刻情報の授受を行うのに要した伝送時間による伝送時間差を含む、前記授受された現在時刻情報の時刻差をもとに補正値を求めることを特徴とする請求項３４または請求項３７記載の監視装置。

【請求項３９】　センタ装置が取得した補正されたストリームデータ索引情報の検索結果をもとに、当該センタ装置は検索条件を満足するストリームデータを記録した退避保存用記憶装置から前記ストリームデータを取得する際の前記退避保存用記憶装置との間で生じているメディア間時間差を知り、当該メディア間時間差をもとに補正した検索条件を満足するストリームデータを記録した前記退避保存用記憶装置から当該ストリームデータを取得することを特徴とする請求項３７または請求項３８記載の監視装置。

【請求項４０】　データ管理装置は、ネットワーク上の記憶装置にエンドレスで記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記それぞれのストリームデータの所在を管理し、
検索手段は、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索し、
センタ装置は、前記検索条件を満足する前記ストリーム

データ索引情報の検索結果をもとに前記記憶装置から前記検索条件を満足するストリームデータを取得することを特徴とする請求項２８から請求項３５のうちのいずれか１項記載の監視装置。

【請求項４１】　検索手段は、ストリームデータ索引情報に対し、ストリームデータを特定する時刻および時間的な幅を含む検索条件と現在時刻とをもとに当該検索条件を満足するストリームデータの所在を検索し、

センタ装置は、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とを含むストリームデータの所在についての検索結果をもとに、記憶装置から前記検索条件を満足するストリームデータを取得することを特徴とする請求項４０記載の監視装置。

【請求項４２】　センタ装置は、検索条件を満足するストリームデータの記録開始時刻と記録終了時刻、および前記検索条件を満足するストリームデータを記録した記憶装置のエンドレス記録時間幅を含むストリームデータの所在についての検索結果をもとに、前記記憶装置から前記検索条件を満足するストリームデータを取得することを特徴とする請求項４１記載の監視装置。

【請求項４３】　データ管理装置は、ネットワーク上の記憶装置にエンドレス記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記それぞれのストリームデータの所在を管理し、

検索手段は、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを検索条件として当該検索条件を満足するストリームデータの所在を検索し、

前記センタ装置は、前記検索条件を満足する前記ストリームデータ索引情報の検索結果をもとに、前記記憶装置から前記検索条件を満足するストリームデータを取得することを特徴とする請求項２７記載の監視装置。

【請求項４４】　データ管理装置は、ストリームデータをイベント記録した記憶装置毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在を管理し、

検索手段は、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するイベント記録されているストリームデータの所在を検索し、

前記センタ装置は、前記検索条件を満足するイベント記録されているストリームデータの所在についての検索結果をもとに、前記記憶装置から前記検索条件を満足するストリームデータを取得することを特徴とする請求項２

９から請求項３５のうちのいずれか１項記載の監視装置。

【請求項４５】　検索手段は、イベント記録されているストリームデータの所在を前記イベント記録の時間区間を含む検索条件をもとにストリームデータ索引情報に対し検索を行い、

センタ装置は、前記検索条件におけるイベント記録の前記時間区間にイベント記録時間の全部または一部が含まれるイベント記録されているストリームデータの所在についての検索結果を取得し、当該取得した検索結果をもとに記憶装置から前記検索条件を満足するストリームデータを取得することを特徴とする請求項４４記載の監視装置。

【請求項４６】　データ管理装置は、ストリームデータをイベント記録した記憶装置毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在を管理し、

検索手段は、前記イベント識別子や前記タイプなどのイベントそのものについての情報、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などの検索条件をもとに当該検索条件を満足するイベント記録されているストリームデータの所在を検索し、

センタ装置は、前記検索条件を満足するイベント記録されているストリームデータの所在についての検索結果を取得し、当該取得した検索結果をもとに前記検索条件を満足するストリームデータを記録した前記記憶装置から前記ストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項２７または請求項４３記載の監視装置。

【請求項４７】　データ管理装置は、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、タイプ、前記ストリームデータが得られたローカル装置、ならびに退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いなどによるストリームデータ索引情報をもとに、前記エンドレス記録によるストリームデータの前記退避保存用記憶装置についての所在を管理し、

検索手段は、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記ストリームデータの前記退避保存用記憶装置についての

所在を検索し、
前記センタ装置は、前記検索条件を満足する前記ストリームデータの前記退避保存用記憶装置についての所在に関する検索結果を取得することを特徴とする請求項３１、請求項３２および請求項３６から請求項３９のうちのいずれか１項記載の監視装置。
【請求項４８】　検索手段は、ストリームデータ索引情報に対し、エンドレス記録されたストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足する前記ストリームデータの退避保存用記憶装置についての所在を検索し、
センタ装置は、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの前記退避保存用記憶装置についての所在を取得することを特徴とする請求項４７記載の監視装置。
【請求項４９】　データ管理装置は、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られたローカル装置、ならびに退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用記憶装置へ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用記憶装置の区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いを示すタイプなどによるストリームデータ索引情報をもとに、前記ストリームデータの前記退避保存用記憶装置についての所在を管理し、
検索手段は、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られたローカル装置などを検索条件として当該検索条件を満足するストリームデータの退避保存用記憶装置についての所在を検索し、
前記センタ装置は、前記検索条件を満足する前記ストリームデータの退避保存用記憶装置についての検索結果を取得し、取得した前記検索条件を満足するストリームデータの退避保存用記憶装置についての所在をもとに、当該ストリームデータを記録した退避保存用記憶装置から前記ストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項２７記載の監視装置。
【請求項５０】　データ管理装置は、退避保存用記憶装置へ再記録されたイベント記録によるストリームデータに対する退避保存識別子、退避保存用記憶装置の区別情報、前記ストリームデータの種類および、退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報などによるストリームデータ索引情報をもとに前記イベント記録によるストリームデータの前記退避保存用記憶装置についての所在を管理し、
検索手段は、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記イベント記録によるストリームデータの前記退避保存用記憶装置についての所在を検索し、
前記センタ装置は、前記検索条件を満足するストリームデータの前記退避保存用記憶装置についての所在を取得し、当該取得した前記検索条件を満足するストリームデータの退避保存用記憶装置についての所在をもとに、当該ストリームデータを記録した退避保存用記憶装置から前記ストリームデータを取得して前記監視対象についてのストリームデータを収集することを特徴とする請求項３１、請求項３２、請求項３６から請求項３９および請求項４７から請求項４９のうちのいずれか１項記載の監視装置。
【請求項５１】　検索手段は、ストリームデータ索引情報に対し、ストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足するストリームデータの退避保存用記憶装置についての所在を検索し、
センタ装置は、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの所在を退避保存用記憶装置について取得することを特徴とする請求項５０記載の監視装置。
【請求項５２】　データ管理装置は、イベント記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプ、前記ストリームデータが得られたローカル装置、ならびに退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用記憶装置へ再記録されたイベント記録によるストリームデータに対する保存退避識別子、退避保存用記憶装置の区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いなどによるストリームデータ索引情報をもとに、前記イベント記録によるストリームデータの前記退避保存用記憶装置についての所在を管理し、
検索手段は、前記ストリームデータ索引情報の前記ヘッダ情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプまたは前記ストリームデータが得られたローカル装置などを検索条件として当該検索条件を満足する前記ストリームデータの退避保存用記憶装置についての所在を検索し、
センタ装置は、前記検索条件を満足する前記ストリームデータの退避保存用記憶装置についての所在を取得し、取得した前記検索条件を満足する前記ストリームデータの退避保存用記憶装置についての所在をもとに、当該ストリームデータを記録した退避保存用記憶装置から前記ストリームデータを取得して前記監視対象についてのス

トリームデータを収集することを特徴とする請求項27または請求項49記載の監視装置。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】この発明は、ネットワーク上に分散して配置されたローカル装置により得られた監視カメラやマイクなどからの映像・音声ストリームデータを、遠隔監視を行うセンタ装置へ前記ネットワークを介して伝送し、例えばセキュリティ、プラント運転制御、施設設備管理などにおける監視業務を行うためのデータ収集方法および監視装置に関するものである。

【0002】

【従来の技術】図15は、映像データの入力および蓄積を行うローカル装置とセンタ装置をネットワークで接続した従来の監視装置の構成を示すブロック図である。図において1はローカル装置、2はセンタ装置、5はネットワーク、6は表示装置、7はデータ入力手段、8は入力データ蓄積・読出手段、9は通信手段、10はデータ処理手段、13はエンドレス記録データ、14はイベント記録データである。

【0003】次に動作について説明する。このローカル装置1では、データ入力手段7がカメラやマイクからの映像や音声データを入力しディジタル化した後、映像はMJPEG（Motion Joint Photographic Coding Experts Group）やMPEG（Motion Picture Experts Group）、音声はPCM（Pulse Codo Modulation）やADPCM（Adaptive Differential Pulse Code Modulation）などに符号化され、入力データ蓄積・読出手段8がその符号化データを時間的に連続なストリームデータとしてハードディスクなどの記憶装置に記録するとともに、センタ装置からの要求に応じて前記記録したストリームデータを読み出す。読み出されたストリームデータは、通信手段9によりネットワーク5を介してセンタ装置2へ伝送され、センタ装置2の通信手段11が前記ストリームデータを受信する。センタ装置2において受信されたストリームデータはデータ処理手段10で復号され、表示装置6に表示されたり、画像認識等の処理が行われる。

【0004】このようにローカル装置1でストリームデータが記録され必要に応じてセンタ装置2へ伝送されるが、映像や音声などのデータは計測データなどと比べデータ量が膨大となるため、入力データ蓄積・読出手段8では大別して2種類のデータを記録する。図16および図17は、この記録方式を説明するための説明図であり、図において15はエンドレス記録管理テーブル、16はエンドレス記録インデックステーブル、17はエンドレス記録実体データ、18はイベント記録管理テーブル、19はイベント記録実体ファイルである。エンドレス記録はある一定時間の最新入力データをエンドレスに記録するものであり、リングバッファ形式で最新データを古いデータより順に上書きする。エンドレス記録には記録時間幅は比較的短いが30フレーム／秒程度の高いフレームレートで記録されるもの以外に、1フレーム／秒程度の間引いた間隔で長時間記録するタイムラプス記録もある。

【0005】また、イベント記録データ14は図示していないセンシング装置などからのイベント発報を入力データ蓄積・読出手段8が受信した際、イベント発生時刻の前後のデータをエンドレス記録データ13やデータ入力手段7から入力されるデータから取り出し、エンドレス記録データ13とは別に蓄積するものである。イベント記録も個数の制限があり、古いものや優先順位の低いものから順次消去されるが、重要なデータが高いフレームレートのエンドレス記録より長時間にわたり記録される。

【0006】センタ装置2から記録されたストリームデータを要求するときには、5分前から現在時刻までとか、1996．12．25．13：20：00～1996．12．25．13：25：00といった時間区間を指定したり、イベントの識別番号（ID）やイベント種別を指定して検索することができる。

【0007】

【発明が解決しようとする課題】従来のデータ収集方法および監視装置は以上のように構成されているので、時間区間を指定したストリームデータに関する問い合わせ、例えば各ローカル装置1でエンドレス記録時間幅が異なる場合に、全ローカル装置1において指定時間区間にどんなストリームデータが存在するかといった問い合わせに対し、センタ装置2は前記ストリームデータの所在確認のため毎回、該当する全てのローカル装置1に問い合わせねばならず、多数のローカル装置が接続されている場合には検索速度が遅くなってしまう課題があった。

【0008】この発明は上記のような課題を解決するためになされたもので、記録されているストリームデータの所在を高速に検索し効率的に収集できるとともに、管理されている時刻にネットワーク上で違いが生じている場合にも、精度の高い検索ができるデータ収集方法および監視装置を得ることを目的とする。

【0009】

【課題を解決するための手段】請求項1記載の発明に係るデータ収集方法は、監視対象について得られたストリームデータを記憶過程によりネットワーク上の限られた記憶量のメディアに記憶し、前記記憶過程により前記メディアに記録されている前記ストリームデータの所在についてのストリームデータ索引情報を管理過程により前記ネットワーク上で集中的に管理し、前記集中的に管理されている前記ストリームデータ索引情報を検索条件を

もとに検索しストリームデータの所在についての検索結果を検索過程で得て、前記検索過程による検索結果をもとに、前記検索条件を満足するストリームデータの所在をストリームデータ所在取得過程により取得し、前記ストリームデータ所在取得過程により取得した前記検索条件を満足するストリームデータの所在をもとに、当該ストリームデータを記録した前記メディアからストリームデータ取得過程が前記ストリームデータを取得して前記監視対象についてのストリームデータを収集するようにしたものである。

【００１０】請求項２記載の発明に係るデータ収集方法は、限られた記憶量のメディアをエンドレスに使用することで、監視対象について得られた時間的に連続しているストリームデータをネットワーク上に分散した前記メディアに記録する記憶過程と、前記ネットワーク上に分散した前記メディアに前記ストリームデータがエンドレスで記録される際の前記メディアの記憶容量に応じた記録時間幅を含むストリームデータ索引情報をもとに前記ストリームデータの所在についての管理を行う管理過程と、前記記録時間幅を含む前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索する検索過程と、前記時刻を含む検索条件を満足する前記ストリームデータの所在についての検索結果を取得する前記ストリームデータ所在取得過程とを備えるようにしたものである。

【００１１】請求項３記載の発明に係るデータ収集方法は、監視対象について得られたストリームデータを、ネットワーク上に分散した限られた記憶量のメディアにイベント記録する記憶過程と、前記ネットワーク上に分散した前記メディアに前記ストリームデータがイベント記録された際のイベント発生時刻および記録時間についての区間を含むストリームデータ索引情報をもとに前記ストリームデータの所在についての管理を行う管理過程と、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するイベント記録されたストリームデータの所在を検索する検索過程と、前記時刻を含む検索条件を満足するイベント記録されたストリームデータの所在についての検索結果を取得するストリームデータ所在取得過程とを備えるようにしたものである。

【００１２】請求項４記載の発明に係るデータ収集方法は、ネットワーク上に分散したメディアにストリームデータがイベント記録された際のイベント発生時刻および当該イベント発生時刻前後の記録時間幅を含むストリームデータ索引情報をもとに、イベント記録されたストリームデータの所在についての管理を管理過程が行うようにしたものである。

【００１３】請求項５記載の発明に係るデータ収集方法は、限られた記憶量のメディアをエンドレスに使用することで、記憶過程によりネットワーク上に分散した前記メディアに記録された、監視対象について得られた時間的に連続しているストリームデータを退避保存過程が退避保存用メディアに再記録して退避保存し、前記再記録した前記ストリームデータを、当該ストリームデータの前記メディアへエンドレスで記録された際の記録時間区間を含む前記ストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により退避保存管理過程が管理し、前記再記録された前記ストリームデータが前記メディアへエンドレスで記録された際の記録時間区間を含むストリームデータ索引情報をもとに、前記再記録されている前記ストリームデータの所在についての管理を管理過程が行い、前記記録時間区間を含む前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用メディアについての所在を検索過程が検索し、前記検索条件を満足する検索結果をストリームデータ所在取得過程で取得し、取得した前記検索結果をもとに、前記退避保存用メディアから前記検索条件を満足するストリームデータを収集するようにしたものである。

【００１４】請求項６記載の発明に係るデータ収集方法は、記憶過程によりネットワーク上に分散したメディアにイベント記録された、監視対象について得られたストリームデータを、退避保存用メディアに再記録して退避保存する退避保存過程と、前記再記録した前記ストリームデータを、当該ストリームデータの前記メディアにイベント記録された際のイベント発生時刻および記録時間幅を含むストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理する退避保存管理過程とを備え、前記再記録された前記ストリームデータが前記メディアにイベント記録された際のイベント発生時刻および記録時間幅を含むストリームデータ索引情報をもとに、管理過程が前記再記録されている前記ストリームデータの所在についての管理を行い、前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用メディアについての所在を検索過程が検索し、前記検索条件を満足する前記ストリームデータを再記録している前記退避保存用メディアについての検索結果をストリームデータ所在取得過程が取得し、取得した前記検索結果をもとに、前記退避保存用メディアから前記検索条件を満足するイベント記録によるストリームデータを収集するようにしたものである。

【００１５】請求項７記載の発明に係るデータ収集方法

は、ネットワーク上の時刻を統一するための時刻統一過程を備え、ネットワーク上に分散したメディアに記録されているストリームデータの所在を、管理過程が前記時刻統一過程で統一化した時刻をもとにストリームデータ索引情報により管理し、前記統一化した時刻による指定を含む検索条件をもとに前記ストリームデータ索引情報に対しストリームデータの所在を検索過程が検索し、前記検索条件を満足するストリームデータの所在についての検索結果を前記ストリームデータ所在取得過程で取得するようにしたものである。

【００１６】請求項８記載の発明に係るデータ収集方法は、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記現在時刻情報の授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定過程と、前記ストリームデータの処理で使用している時刻についての補正値を、前記測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算過程とを備え、管理過程が、前記ネットワーク上に分散したメディアに記録されているストリームデータのストリームデータ索引情報をもとに前記ストリームデータの所在を管理するとともに前記補正値演算過程で求めた補正値を管理し、前記ストリームデータ索引情報に対し、検索条件として指定される時刻や検索結果における時刻を前記管理過程で管理している前記補正値をもとに補正して、前記検索条件を満足するストリームデータの所在を検索過程が検索し、前記検索過程で検索が行われた際に補正されたストリームデータの所在についての前記ストリームデータ索引情報の検索結果をストリームデータ所在取得過程が取得し、取得した前記検索結果をもとに前記メディアからストリームデータをストリームデータ取得過程で取得するようにしたものである。

【００１７】請求項９記載の発明に係るデータ収集方法は、ストリームデータ所在取得過程において取得した補正されたストリームデータ索引情報の検索結果をもとに、検索条件を満足するストリームデータを記録したメディアから前記ストリームデータを取得する際の前記メディアとの間で生じているメディア間時間差を知り、当該メディア間時間差をもとに補正した検索条件を満足するストリームデータを記録した前記メディアから当該ストリームデータをストリームデータ取得過程が取得するようにしたものである。

【００１８】請求項１０記載の発明に係るデータ収集方法は、ネットワーク上の時刻を統一するための時刻統一過程を備え、退避保存過程で再記録した前記ストリームデータを、退避保存管理過程により前記時刻統一過程で統一した時刻をもとに管理し、退避保存用メディアに再記録されているストリームデータの所在を前記時刻統一過程で統一化した時刻をもとにしたストリームデータ索引情報により管理過程で管理し、前記ストリームデータ索引情報に対し、前記統一化した時刻による指定を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を退避保存用メディアについて検索過程で検索し、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在についての検索結果をストリームデータ所在取得過程が取得するようにしたものである。

【００１９】請求項１１記載の発明に係るデータ収集方法は、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記現在時刻情報の授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定過程と、前記ストリームデータの処理で使用している時刻についての補正値を、前記測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算過程とを備え、退避保存用メディアに再記録されているストリームデータのストリームデータ索引情報をもとに管理過程が前記ストリームデータの所在を管理するとともに前記補正値演算過程で求めた補正値を管理し、前記ストリームデータ索引情報に対し検索条件として指定される時刻や検索結果における時刻を前記管理過程で管理している前記補正値をもとに補正して、前記検索条件を満足するストリームデータの前記退避保存用メディアについての所在を検索過程において検索し、補正された前記ストリームデータの所在についての前記ストリームデータ索引情報の検索結果をストリームデータ所在取得過程で取得し、取得した前記検索結果をもとに、前記検索条件を満足するストリームデータを前記退避保存用メディアからストリームデータ取得過程で取得するようにしたものである。

【００２０】請求項１２記載の発明に係るデータ収集方法は、現在時刻情報の授受を行うのに要した伝送時間による伝送時間差を含む時刻差をもとに、補正値演算過程において補正値を求めるようにしたものである。

【００２１】請求項１３記載の発明に係るデータ収集方法は、ストリームデータ取得過程が、ストリームデータ所在取得過程において取得した補正されたストリームデータ索引情報の検索結果をもとに、検索条件を満足するストリームデータを記録した退避保存用メディアから前記ストリームデータを取得する際の前記退避保存用メディアとの間で生じているメディア間時間差を知り、当該メディア間時間差をもとに検索条件を満足するストリームデータを記録した前記退避保存用メディアから当該ストリームデータを取得するようにしたものである。

【００２２】請求項１４記載の発明に係るデータ収集方法は、ネットワーク上に分散したメディアにエンドレスで記録されているストリームデータの記録時間幅、前記

ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記ストリームデータの所在を管理過程で管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索過程が検索し、前記検索条件を満足する前記ストリームデータ索引情報の検索結果をストリームデータ所在取得過程が取得するようにしたものである。

【００２３】請求項１５記載の発明に係るデータ収集方法は、ストリームデータ索引情報に対し、ストリームデータを特定する時刻および時間的な幅を含む検索条件と現在時刻とをもとに当該検索条件を満足するストリームデータの所在を検索過程が検索し、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とを含むストリームデータの所在についての検索結果をストリームデータ所在取得過程で取得するようにしたものである。

【００２４】請求項１６記載の発明に係るデータ収集方法は、検索条件を満足するストリームデータの記録開始時刻と記録終了時刻、および前記検索条件を満足するストリームデータを記録したメディアのエンドレス記録時間幅を含むストリームデータの所在についての検索結果をストリームデータ所在取得過程で取得するようにしたものである。

【００２５】請求項１７記載の発明に係るデータ収集方法は、ネットワーク上に分散したメディアにエンドレス記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記ストリームデータの所在を管理過程で管理し、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを検索条件として当該検索条件を満足するストリームデータの所在を検索過程で検索し、前記検索条件を満足する前記ストリームデータ索引情報の検索結果をストリームデータ所在取得過程で取得するようにしたものである。

【００２６】請求項１８記載の発明に係るデータ収集方法は、ストリームデータをイベント記録したメディア毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在を管理過程で管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するイベント記録されているストリームデータの所在を検索過程で検索し、前記

検索条件を満足するイベント記録されているストリームデータの所在についての検索結果をストリームデータ所在取得過程で取得するようにしたものである。

【００２７】請求項１９記載の発明に係るデータ収集方法は、イベント記録されているストリームデータの所在を前記イベント記録の時間区間を含む検索条件をもとにストリームデータ索引情報に対し検索過程で検索を行い、前記検索条件におけるイベント記録の前記時間区間にイベント記録時間の全部または一部が含まれるイベント記録されているストリームデータの所在についての検索結果をストリームデータ所在取得過程で取得するようにしたものである。

【００２８】請求項２０記載の発明に係るデータ収集方法は、ストリームデータをイベント記録したメディア毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在を管理過程で管理し、前記イベント識別子や前記タイプなどのイベントそのものについての情報、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などの検索条件をもとに当該検索条件を満足するイベント記録されているストリームデータの所在を検索過程で検索し、前記検索条件を満足するイベント記録されているストリームデータの所在についての検索結果をストリームデータ所在取得過程で取得し、前記トリームデータ所在取得過程により取得した前記検索条件を満足するストリームデータの所在をもとに、ストリームデータ取得過程が前記メディアからストリームデータを収集するようにしたものである。

【００２９】請求項２１記載の発明に係るデータ収集方法は、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、タイプ、前記ストリームデータが得られた端末、ならびに退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いなどによるストリームデータ索引情報をもとに、前記エンドレス記録によるストリームデータの前記退避保存用メディアについての所在を管理過程で管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記ストリームデータの前記退避保存用メディアについての所在を検索過程で検索し、前記検索条件を満足する前記ストリ

ームデータの前記退避保存用メディアについての所在についての検索結果をストリームデータ所在取得過程で取得するようにしたものである。

【００３０】請求項２２記載の発明に係るデータ収集方法は、ストリームデータ索引情報に対し、エンドレス記録されたストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足する前記ストリームデータの退避保存用メディアについての所在を検索過程で検索し、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの前記退避保存用メディアについての所在をストリームデータ所在取得過程で取得するようにしたものである。

【００３１】請求項２３記載の発明に係るデータ収集方法は、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られた端末、ならびに退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いを示すタイプなどによるストリームデータ索引情報をもとに、前記ストリームデータの前記退避保存用メディアについての所在を管理過程で管理し、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られた端末などを検索条件として当該検索条件を満足するストリームデータの退避保存用メディアについての所在を検索過程で検索し、前記検索過程による検索結果をストリームデータ所在取得過程で取得し、前記検索条件を満足するストリームデータを前記退避保存用メディアから収集するようにしたものである。

【００３２】請求項２４記載の発明に係るデータ収集方法は、退避保存用メディアへ再記録されたイベント記録によるストリームデータに対する退避保存識別子、退避保存用メディアの区別情報、前記ストリームデータの種類および、退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報などによるストリームデータ索引情報をもとに前記イベント記録によるストリームデータの前記退避保存用メディアについての所在を管理過程で管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記イベント記録によるストリームデータの前記退避保存用メディアについての所在を検索過程で検索し、前記検索条件を満足するストリームデータの前記退避保存用メディアについての所在をストリームデータ所在取得過程で取得するようにしたものである。

【００３３】請求項２５記載の発明に係るデータ収集方法は、ストリームデータ索引情報に対し、ストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足するストリームデータの退避保存用メディアについての所在を検索過程で検索し、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの所在をストリームデータ所在取得過程で退避保存用メディアについて取得するようにしたものである。

【００３４】請求項２６記載の発明に係るデータ収集方法は、イベント記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプ、前記ストリームデータが得られた端末、ならびに退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプまたは前記ストリームデータが得られた端末などを検索条件として当該検索条件を満足する前記ストリームデータの退避保存用メディアについての所在を検索過程で検索し、前記検索条件を満足する前記ストリームデータの退避保存用メディアについての所在をストリームデータ所在取得過程で取得し、取得した前記検索条件を満足する前記ストリームデータの所在をもとに、退避保存用メディアからストリームデータを収集するようにしたものである。

【００３５】請求項２７記載の発明に係る監視装置は、監視対象について得られたストリームデータをネットワーク上の限られた記憶量の記憶装置に記録する前記ネットワーク上に分散して配置されたローカル装置と、前記記憶装置へ記録されている前記ストリームデータの所在についてのストリームデータ索引情報を前記ネットワーク上で集中的に管理するデータ管理装置と、集中的に管理されている前記ストリームデータ索引情報を検索条件をもとに検索する検索手段と、該検索手段による検索結果により取得した前記ストリームデータの所在をもとに、前記記憶装置から前記ストリームデータを得て前記監視対象についてのストリームデータを収集するセンタ装置と、前記ネットワーク上で前記ストリームデータなど各種情報の送受信を行うための通信手段とを備えるようにしたものである。

【００３６】請求項２８記載の発明に係る監視装置は、限られた記憶量の記憶装置をエンドレスに使用することで、監視対象について得られた時間的に連続しているストリームデータをネットワーク上の前記記憶装置にローカル装置が記録し、前記ネットワーク上の前記記憶装置に前記ストリームデータがエンドレスで記録される際の前記記憶装置の記憶容量に応じた記録時間幅を含むストリームデータ索引情報をもとに前記ストリームデータの

所在についての管理をデータ管理装置が行い、前記記録時間幅を含む前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索手段が検索し、前記検索手段により得られた検索結果から取得した前記ストリームデータの所在をもとに、前記記憶装置から前記ストリームデータを得て前記監視対象についてのストリームデータを前記センタ装置が収集するようにしたものである。

【００３７】請求項２９記載の発明に係る監視装置は、監視対象について得られたストリームデータを、ネットワーク上の限られた記憶量の記憶装置にローカル装置がイベント記録し、前記ネットワーク上の前記記憶装置に前記ストリームデータがイベント記録された際のイベント発生時刻および記録時間についての区間を含むストリームデータ索引情報をもとに前記ストリームデータの所在についての管理をデータ管理装置が行い、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するイベント記録されたストリームデータの所在を検索手段が検索し、前記時刻を含む検索条件を満足するイベント記録されたストリームデータの所在についての検索結果をもとに、当該ストリームデータを記録した前記記憶装置から前記ストリームデータを得て前記監視対象についてのストリームデータをセンタ装置が収集するようにしたものである。

【００３８】請求項３０記載の発明に係る監視装置は、ネットワーク上の記憶装置にストリームデータがイベント記録された際のイベント発生時刻および当該イベント発生時刻前後の記録時間幅を含むストリームデータ索引情報をもとに、前記イベント記録されたストリームデータの所在についての管理をデータ管理装置が行うようにしたものである。

【００３９】請求項３１記載の発明に係る監視装置は、限られた記憶量の記憶装置をエンドレスに使用することで当該記憶装置に記録された、監視対象について得られた時間的に連続しているストリームデータを、退避保存用記憶装置に再記録して退避保存する退避保存手段と、前記再記録した前記ストリームデータを、当該ストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理する退避保存管理手段とを備え、前記再記録された前記ストリームデータが前記記憶装置へエンドレスで記録された際の記録時間区間を含むストリームデータ索引情報をもとに、前記再記録されている前記ストリームデータの所在についての管理をデータ管理装置が行い、前記記録時間区間を含む前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用記憶装置についての所在を検索手段が検索し、前記検索手段による検索結果をもとに、前記退避保存用記憶装置からストリームデータをセンタ装置が収集するようにしたものである。

【００４０】請求項３２記載の発明に係る監視装置は、記憶装置へイベント記録された、監視対象について得られたストリームデータを、退避保存用記憶装置に再記録して退避保存する退避保存手段と、前記再記録した前記ストリームデータを、当該ストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理する退避保存管理手段とを備え、前記再記録された前記ストリームデータが前記記憶装置にイベント記録された際のイベント発生時刻および記録時間幅を含むストリームデータ索引情報をもとに、前記再記録されている前記ストリームデータの所在についての管理をデータ管理装置が行い、前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用記憶装置についての所在を検索手段が検索し、前記検索条件を満足する検索結果をもとに、前記退避保存用記憶装置からイベント記録によるストリームデータをセンタ装置が収集するようにしたものである。

【００４１】請求項３３記載の発明に係る監視装置は、ネットワーク上の時刻を統一するための時刻合致手段を備え、前記ネットワーク上の記憶装置に記録されているストリームデータの所在を、前記時刻合致手段により統一化した時刻をもとにストリームデータ索引情報によりデータ管理装置が管理し、前記統一化した時刻による指定を含む検索条件をもとに前記ストリームデータ索引情報に対し前記検索条件を満足するストリームデータの所在を検索手段が検索し、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在についての検索結果をセンタ装置が取得するようにしたものである。

【００４２】請求項３４記載の発明に係る監視装置は、ネットワーク上で行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記現在時刻情報の授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定手段と、前記ストリームデータの処理で使用している時刻についての補正値を、前記時刻差測定手段により測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算手段とを備え、前記ネットワーク上の記憶装置に記録されているストリームデータのストリームデータ索引情報をもとに、データ管理装置が前記ストリームデータの所在を管理するとともに前記補正値演算手段が求めた補正値を管理し、前記ストリームデータ索引情報に対し、検索条件として指定される時刻や検索結果における時刻を前記データ管理装置が管理してい

る前記補正値をもとに補正して、前記検索条件を満足するストリームデータの所在を検索手段が検索し、前記検索手段により検索が行われた際に補正されたストリームデータの所在についての前記ストリームデータ索引情報の検索結果をもとに前記記憶装置からストリームデータをセンタ装置が収集するようにしたものである。

【００４３】請求項３５記載の発明に係る監視装置は、センタ装置が取得した補正されたストリームデータ索引情報の検索結果をもとに、当該センタ装置は検索条件を満足するストリームデータを記録した記憶装置から前記ストリームデータを取得する際の前記記憶装置との間で生じているメディア間時間差を知り、当該メディア間時間差をもとに補正した検索条件を満足するストリームデータを記録した前記記憶装置から当該ストリームデータを取得し収集するようにしたものである。

【００４４】請求項３６記載の発明に係る監視装置は、ネットワーク上の時刻を統一するための時刻合致手段を備え、退避保存手段により再記録したストリームデータを、前記時刻合致手段により統一した時刻をもとに退避保存管理手段が管理し、退避保存用記憶装置に再記録されているストリームデータの所在を前記時刻合致手段により統一化した時刻をもとにしたストリームデータ索引情報によりデータ管理装置が管理し、前記ストリームデータ索引情報に対し、前記統一化した時刻による指定を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索手段が退避保存用記憶装置について検索し、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在についての検索結果を取得し、当該ストリームデータを退避保存用記憶装置からセンタ装置が取得し収集するようにしたものである。

【００４５】請求項３７記載の発明に係る監視装置は、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記現在時刻情報の授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定手段と、前記ストリームデータの処理で使用している時刻についての補正値を、前記時刻差測定手段により測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算手段とを備え、退避保存用記憶装置に再記録されているストリームデータのストリームデータ索引情報をもとに、データ管理装置が前記ストリームデータの所在を管理するとともに前記補正値演算手段により求めた補正値を管理し、前記ストリームデータ索引情報に対し、検索条件として指定される時刻や検索結果における時刻を前記データ管理装置で管理している前記補正値をもとに補正して、前記検索条件を満足するストリームデータの前記退避保存用記憶装置についての所在を検索手段が検索し、前記検索手段により検索が行われた際に補正された前記ストリームデータの所在についての前記ストリームデータ索引情報の検索結果をもとに、前記退避保存用記憶装置からストリームデータをセンタ装置が収集するようにしたものである。

【００４６】請求項３８記載の発明に係る監視装置は、現在時刻情報の授受を行うのに要した伝送時間による伝送時間差を含む、前記授受された現在時刻情報の時刻差をもとに、補正値演算手段が補正値を求めるようにしたものである。

【００４７】請求項３９記載の発明に係る監視装置は、センタ装置が取得した補正されたストリームデータ索引情報の検索結果をもとに、当該センタ装置は検索条件を満足するストリームデータを記録した退避保存用記憶装置から前記ストリームデータを取得する際の前記退避保存用記憶装置との間で生じているメディア間時間差を知り、当該メディア間時間差をもとに補正した検索条件を満足するストリームデータを記録した前記退避保存用記憶装置から当該ストリームデータを取得するようにしたものである。

【００４８】請求項４０記載の発明に係る監視装置は、ネットワーク上の記憶装置にエンドレスで記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記それぞれのストリームデータの所在をデータ管理装置が管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索手段が検索し、前記検索条件を満足する前記ストリームデータ索引情報の検索結果をもとに前記記憶装置から前記検索条件を満足するストリームデータをセンタ装置が取得するようにしたものである。

【００４９】請求項４１記載の発明に係る監視装置は、ストリームデータ索引情報に対し、ストリームデータを特定する時刻および時間的な幅を含む検索条件と現在時刻とをもとに当該検索条件を満足するストリームデータの所在を検索手段が検索し、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とを含むストリームデータの所在についての検索結果をもとに、記憶装置から前記検索条件を満足するストリームデータをセンタ装置が取得するようにしたものである。

【００５０】請求項４２記載の発明に係る監視装置は、検索条件を満足するストリームデータの記録開始時刻と記録終了時刻、および前記検索条件を満足するストリームデータを記録した記憶装置のエンドレス記録時間幅を含むストリームデータの所在についての検索結果をもとに、前記記憶装置から前記検索条件を満足するストリームデータをセンタ装置が取得するようにしたものである。

【００５１】請求項４３記載の発明に係る監視装置は、ネットワーク上の記憶装置にエンドレス記録されている

ストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記それぞれのストリームデータの所在をデータ管理装置が管理し、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを検索条件として当該検索条件を満足するストリームデータの所在を検索手段が検索し、前記検索条件を満足する前記ストリームデータ索引情報の検索結果をもとに、前記記憶装置から前記検索条件を満足するストリームデータをセンタ装置が取得するようにしたものである。

【００５２】請求項４４記載の発明に係る監視装置は、ストリームデータをイベント記録した記憶装置毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在をデータ管理装置が管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するイベント記録されているストリームデータの所在を検索手段が検索し、前記検索条件を満足するイベント記録されているストリームデータの所在についての検索結果をもとに、前記記憶装置からストリームデータをセンタ装置が収集するようにしたものである。

【００５３】請求項４５記載の発明に係る監視装置は、イベント記録されているストリームデータの所在を前記イベント記録の時間区間を含む検索条件をもとにストリームデータ索引情報に対し検索を検索手段が行い、前記検索条件におけるイベント記録の前記時間区間にイベント記録時間の全部または一部が含まれるイベント記録されているストリームデータの所在についての検索結果をセンタ装置が取得し、取得した前記検索結果をもとに記憶装置からストリームデータを取得するようにしたものである。

【００５４】請求項４６記載の発明に係る監視装置は、ストリームデータをイベント記録した記憶装置毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在をデータ管理装置が管理し、前記イベント識別子や前記タイプなどのイベントそのものについての情報、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などの検索条件

をもとに当該検索条件を満足するイベント記録されているストリームデータの所在を検索手段が検索し、センタ装置は、前記検索条件を満足するイベント記録されているストリームデータの所在についての検索結果を取得し、当該取得した検索結果をもとに前記記憶装置から前記ストリームデータを取得して収集するようにしたものである。

【００５５】請求項４７記載の発明に係る監視装置は、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、タイプ、前記ストリームデータが得られたローカル装置、ならびに退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いなどによるストリームデータ索引情報をもとに、前記エンドレス記録によるストリームデータの前記退避保存用記憶装置についての所在をデータ管理装置が管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記ストリームデータの前記退避保存用記憶装置についての所在を検索手段が検索し、センタ装置は、前記検索条件を満足する前記ストリームデータの前記退避保存用記憶装置についての所在に関する検索結果を取得するようにしたものである。

【００５６】請求項４８記載の発明に係る監視装置は、ストリームデータ索引情報に対し、エンドレス記録されたストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足する前記ストリームデータの退避保存用記憶装置についての所在を検索手段が検索し、センタ装置は、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの前記退避保存用記憶装置についての所在を取得するようにしたものである。

【００５７】請求項４９記載の発明に係る監視装置は、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られたローカル装置、ならびに退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用記憶装置へ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用記憶装置の区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いを示すタイプなどによるストリームデータ索引情報をもとに、前記ストリームデータの前記退避保存用記憶装置についての所在をデータ管理装置が管理し、前記ストリームデータ索引情報に対し、前記ストリームデ

ータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られたローカル装置などを検索条件として当該検索条件を満足するストリームデータの退避保存用記憶装置についての所在を検索手段が検索し、センタ装置は、前記検索条件を満足する前記ストリームデータの退避保存用記憶装置についての検索結果を取得し、取得した前記検索条件を満足するストリームデータを退避保存用記憶装置から収集するようにしたものである。

【００５８】請求項５０記載の発明に係る監視装置は、退避保存用記憶装置へ再記録されたイベント記録によるストリームデータに対する退避保存識別子、退避保存用記憶装置の区別情報、前記ストリームデータの種類および、退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報などによるストリームデータ索引情報をもとに前記イベント記録によるストリームデータの前記退避保存用記憶装置についての所在をデータ管理装置が管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記イベント記録によるストリームデータの前記退避保存用記憶装置についての所在を検索手段が検索し、センタ装置は、取得した前記検索条件を満足するストリームデータの前記退避保存用記憶装置についての所在をもとに、退避保存用記憶装置から当該ストリームデータを取得して収集するようにしたものである。

【００５９】請求項５１記載の発明に係る監視装置は、ストリームデータ索引情報に対し、ストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足するストリームデータの退避保存用記憶装置についての所在を検索手段が検索し、センタ装置は、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの所在を退避保存用記憶装置について取得するようにしたものである。

【００６０】請求項５２記載の発明に係る監視装置は、イベント記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプ、前記ストリームデータが得られたローカル装置、ならびに退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプまたは前記ストリームデータが得られたローカル装置などを検索条件として当該検索条件を満足する前記ストリームデータの退避保存用記憶装置についての所在を検索手段が検索し、センタ装置は、前記検索条件を満足する前記ストリームデータの退避保存用記憶装置についての所在を前記検索結果から取得し、取得した前記所在をもとに退避保存用記憶装置からストリームデータを収集するようにしたものである。

【００６１】

【発明の実施の形態】以下、この発明の実施の一形態を説明する。

実施の形態１．図１は、この実施の形態１のデータ収集方法が適用される監視装置の構成を示すブロック図である。図において、１はローカル装置、２はセンタ装置、３はデータ管理装置（検索手段）、４はローカル装置１により得られた監視用のストリームデータを記録する記憶装置、５はネットワーク、６は表示装置、７はデータ入力手段、８は入力データ蓄積・読出手段、９ａはローカル装置１側の通信手段、９ｂはセンタ装置２側の通信手段、９ｃはデータ管理装置３側の通信手段、１０はデータ処理手段、１１は分散データ管理手段（検索手段）、１２はストリームデータ索引情報、１３はエンドレス記録データ（ストリームデータ）である。また、図２はこの実施の形態１における検索結果例を示す説明図である。

【００６２】次に動作について説明する。先ず、ローカル装置１におけるストリームデータの入力、蓄積、読出ならびに通信、およびセンタ装置２のストリームデータの受信ならびに受信したストリームデータの処理について説明する。ローカル装置１におけるデータ入力手段７は、監視用のカメラやマイクからの映像や音声データを入力しディジタル化する。このディジタル化されたデータは、映像データについてはＭＪＰＥＧやＭＰＥＧ、音声データについてはＰＣＭやＡＤＰＣＭなどに符号化され、入力データ蓄積・読出手段８によりその符号化データが時間的に連続なエンドレス記録によるエンドレス記録データ１３としてハードディスクなどの記憶装置４に記録される。また、センタ装置２からの要求に応じて前記記録したエンドレス記録データ１３が入力データ蓄積・読出手段８により読み出される。

【００６３】読み出されたエンドレス記録データ１３は、通信手段９ａによりネットワーク５を介してセンタ装置２へ伝送されるとともにセンタ装置２の通信手段１１が前記エンドレス記録データ１３を受信する。センタ装置２において受信されたエンドレス記録データ１３はデータ処理手段１０で復号され、表示装置６に表示されたり、画像認識等の処理が行われる。

【００６４】次に、データ管理装置３の動作を説明する。データ管理装置３の通信手段９ｃは、ローカル装置１により記憶装置４へ記録されたエンドレス記録データ１３の所在を問い合わせるセンタ装置２からのストリームデータ検索要求メッセージを受信し、分散データ管理手段９ｂは当該ストリームデータ検索要求を処理して、ストリームデータ検索結果メッセージを通信手段９ｃによりセンタ装置２に送り返す。ここで分散データ管理手段１１は各ローカル装置１の記憶装置４へ記録されるテンポラルな、つまり時間経過に従い自動的に新たなデー

タが記録され古いデータが消去されるエンドレス記録データ１３の所在を、図１に示すようなストリームデータ索引情報１２により管理する。

【００６５】このストリームデータ索引情報１２にはカメラやマイク等の入力デバイス、ローカル装置１、符号化方式や符号化レートといった情報の他に、各ローカル装置１の記憶装置４でのエンドレス記録時間幅が含まれる。このエンドレス記録時間幅により、各ローカル装置が現在時刻から過去に遡ったときのいつの時刻までのエンドレス記録データ１３を保持しているかが判明する。従ってセンタ装置２が、例えば図２に示すような時間区間を指定したストリームデータ検索要求をした場合、すなわち現在時刻９６年１２月２６日１５時２０分５０秒において、全てのローカル装置１における時間区間９６年１２月２６日１４時３０分３０秒から９６年１２月２６日１４時４０分３０秒までのエンドレス記録データ１３の所在を問い合わせた場合、分散データ管理手段１１は現在時刻とエンドレス記録時間幅から各ローカル装置１に検索条件を満足するエンドレス記録データ１３が存在するか否か、存在するのであれば何時から何時までのエンドレス記録データがあるのかをストリームデータ索引情報１２から検索し、図２に示すような検索結果を通信手段９ｃによりセンタ装置２に回答する。

【００６６】図２の例では、ローカル装置Ｌｏｃ３，Ｌｏｃ１７に存在するエンドレス記録データのように、指定された時間区間全てのエンドレス記録データがある場合と、ローカル装置Ｌｏｃ９のようにエンドレス記録時間幅が短く、指定された時間区間の一部にしかエンドレス記録データが存在しない場合があることを示している。

【００６７】検索結果にはエンドレス記録データ１３が存在するローカル装置や時間区間の情報が含まれるので、センタ装置２は前記検索結果から特定のローカル装置に対し時間区間を指定して所望のエンドレス記録データ１３を伝送するよう指示し、伝送されてきたエンドレス記録データ１３を表示することができる。

【００６８】なお、ローカル装置１のエンドレス記録時間幅や符号化レートなどが変更された場合に、データ管理装置３が前記変更されたエンドレス記録時間幅や符号化レートなどを取得する手段としては幾つか考えられる。先ず、システム稼働中にセンタ装置２などからの要求によりローカル装置１のエンドレス記録時間幅や符号化レートなどを動的に変更する場合には、変更を受け付けたローカル装置１が自発的にデータ管理装置３へ変更メッセージを送信し、分散データ管理手段１１がストリームデータ索引情報１２の内容を変更するか、またはセンタ装置２などがデータ管理装置３に対し特定のローカル装置１のエンドレス記録のパラメータ変更の要求を行い、データ管理装置３がローカル装置１に変更命令を出すとともに分散データ管理手段１１がストリームデータ索引情報１２を変更するといった方法などである。

【００６９】以上のように、この実施の形態１によれば、ローカル装置１の記憶装置４に記録されるエンドレス記録データ１３の所在を、データ管理装置３において分散データ管理手段１１が各ローカル装置１のエンドレス記録時間幅を含むストリームデータ索引情報１２により管理し、通信手段９ｃによりセンタ装置２から受信した時間区間を指定したストリームデータ検索要求メッセージに応じてストリームデータ索引情報１２に対し検索を行い、条件に適合するエンドレス記録データ１３が存在するローカル装置１や時間区間などをストリームデータ検索結果メッセージとして通信手段９ｃによりセンタ装置２に回答するようにしたので、多数のローカル装置が存在する場合でもセンタ装置２はデータ管理装置３に対し一度の問い合わせを行えばよく、検索時間が大幅に短縮される効果が得られる。

【００７０】また、データ管理装置３は、ローカル装置１の記憶装置４に記録されたテンポラルなエンドレス記録データ１３の実体を移動することなく、ストリームデータ索引情報１２により管理するため、ＣＰＵ、メモリ、ネットワークといったシステム資源の使用を抑制することができる。

【００７１】また、図１から明らかなように、センタ装置２から発せられるストリームデータ検索要求が時間区間の指定だけでなく、符号化の種類、入力デバイスといった他の情報についての検索パラメータを用いて、エンドレス記録データの所在を問い合わせることができる。

【００７２】さらに、カメラやマイク以外にローカル装置１に接続されたセンサ装置からの計測データや設備の制御データなどの時系列データを、映像や音声と同様なエンドレス記録データとしてとらえ、このような時系列データをローカル装置１の記憶装置４へエンドレス記録し、データ管理装置３では前記時系列データをエンドレス記録時間幅を含むストリームデータ索引情報により管理することもできる。

【００７３】なお、以上の説明においてはデータ管理装置３はネットワーク上に１台のみ存在している場合について説明したが、複数存在しそれぞれがローカル装置やセンタ装置２を分担して協調動作を行ったり、故障が発生したときのために複数のデータ管理装置が同一のストリーム索引情報を管理し、故障時に他のデータ管理装置が代替動作するように構成することも可能である。

【００７４】また、以上の説明では、データ管理装置３は独立した専用装置として説明したが、データ管理装置３の分散データ管理手段１１や通信手段９ｃは必ずしも専用装置として動作する必要はなく、処理能力のあるセンタ装置２やローカル装置１などにおいて動作する構成であってもよい。

【００７５】さらに、図１に示したストリームデータ索引情報１２に、故障しているローカル装置であることを

示す情報など、ローカル装置に関する種々のデータを含めることも可能である。

【００７６】実施の形態２．次に実施の形態２のデータ収集方法および監視装置について説明する。この実施の形態のデータ収集方法および監視装置の構成は、前記実施の形態１のデータ収集方法および監視装置の構成と同様であり、ストリームデータ検索情報も前記実施の形態１のストリームデータ索引情報１２と同一の内容であるが、センタ装置２のストリームデータ検索要求に対する検索結果が異なる。

【００７７】図３はこの検索結果例を示すが、図２に示す検索結果と異なる点は検索条件に適合するエンドレス記録データ１３が存在するローカル装置のエンドレス記録時間幅が含まれることである。これはデータ管理装置３で検索処理した時刻とセンタ装置２がそのストリームデータ検索結果メッセージを受信した時刻に、各装置の処理能力やネットワーク負荷に起因する伝送遅延のため、無視できない時間差が生じる場合に使用するデータである。

【００７８】エンドレス記録データ１３はエンドレスで前記エンドレス記録時間幅で繰り返し書き換えられているため、伝送遅延が生じている状況下では前記伝送遅延の時間幅によってはストリームデータ検索要求の条件に適合するエンドレス記録データ１３の内の古いストリームデータが書き換えられている状況が生じる。このため、センタ装置２は前記エンドレス記録時間幅や前記伝送遅延の時間幅などから、現時点において存在するエンドレス記録データ１３の時間区間を補正計算して、センタ装置２はローカル装置１に前記補正した時間区間のエンドレス記録データ１３についてストリームデータ読出要求を行ったり、補正した前記時間区間をオペレータに表示したりすることができる。

【００７９】以上のように、この実施の形態２によれば、データ管理装置３の分散データ管理手段１１が、検索条件に適合するエンドレス記録データ１３に対応するエンドレス記録時間幅をエンドレス記録データの検索結果に含めて回答するようにしたので、データ管理装置３が検索した時刻とその回答をセンタ装置２が受信した時刻の間の時間幅がネツトワーク伝送などによる遅延時間が大きく無視できない場合でも、センタ装置２は前記エンドレス記録時間幅や前記遅延時間から補正した現時点で存在する前記時間区間のエンドレス記録データのストリームデータ読出要求をローカル装置１に対し行ったり、エンドレス記録データの存在する正しい時間区間をオペレータに表示できる効果が得られる。

【００８０】なお、以上の説明においてはエンドレス記録時間幅を時刻補正情報として説明したが、さらにデータ管理装置３における検索時刻を検索結果に含めれば、センタ装置２が検索結果一覧としてエンドレス記録データの時間区間とともに前記検索時刻を表示することで、オペレータに対し検索条件に適合するエンドレス記録データがいつの時点で存在していたかを明示できる。また、センタ装置２が受け取ったエンドレス記録時間幅をローカル装置１と対応付けて保持しておけば、当該エンドレス記録時間幅が変更されない限り、センタ装置２自身で当該ローカル装置に存在するエンドレス記録データの時間区間を求めることができる。

【００８１】実施の形態３．図４はこの実施の形態３のデータ収集方法が適用される監視装置の構成を示すブロック図である。図４において図１と同一または相当の部分については同一の符号を付し説明を省略する。図において、２０はローカル装置１に記録されるイベント記録されたストリームデータ（以下、イベント記録データという）、２１はデータ管理装置（検索手段）、２２は分散データ管理手段（検索手段）、２３はストリームデータ索引情報である。

【００８２】次に動作について説明する。この実施の形態では、ローカル装置１におけるストリームデータの入力、蓄積、読出ならびに通信、およびセンタ装置２でのストリームデータの受信ならびに受信したストリームデータの処理についての動作は前記実施の形態１と同様である。またこの実施の形態の記憶装置にはイベント記録データ２０が記憶される。

【００８３】データ管理装置２１の通信手段９ｃは、センタ装置２から送られてくるローカル装置におけるイベント記録データ２０の所在を問い合わせるストリームデータ検索要求メッセージを受信する。そして、分散データ管理手段２２は受信したストリームデータ検索要求を処理して、ストリームデータ検索結果メッセージを通信手段９ｃによりセンタ装置２へ送り返す。ここで分散データ管理手段２２は各ローカル装置に記録されるイベント記録データ２０の所在を、図４に示すストリームデータ索引情報２３として管理する。このストリームデータ索引情報２３には各ストリームデータに対して、イベント識別子（イベントＩＤ）２３ａやタイプ２３ｂといったイベントそのものの情報、カメラやマイク等の入力デバイス２３ｃ、ローカル装置２３ｄ、符号化方式や符号化レートといった符号化情報２３ｅの他に、各ローカル装置でのイベント記録の記録開始時刻と記録終了時刻で表される記録時間区間情報２３ｆが含まれる。

【００８４】図４に示すストリームデータ索引情報２３の記録時間区間情報２３ｆではイベント発生時刻情報２３１とその前後の記録時間幅情報２３２が記述されており、これらにより記録開始時刻と記録終了時刻が求まる。従って、センタ装置２から例えば図５の（ｂ）に示すような検索文により時間区間を指定したストリームデータ検索要求があった場合、すなわち全てのローカル装置における時間区間９６年１２月２６日１４時３０分３０秒から９６年１２月２６日１４時４０分３０秒までのイベント記録データ２０の所在の問い合わせを行った場

合、分散データ管理手段２２はイベント記録の記録時間区間２３ｆから各ローカル装置に前記検索条件を満足するイベント記録データ２０が存在するか否か、存在するのであれば何時から何時までのデータがあるのかをストリームデータ索引情報２３から検索し、図５に示すような検索結果を通信手段９ｃによりセンタ装置２に回答する。

【００８５】図５では、イベント発生時刻がイベントＩＤ“ｅｖ１０３”のように指定された時間区間に存在するものや、イベントＩＤ“ｅｖ１０４”のようにイベント発生時刻は時間区間外にあるが、イベント記録開始時刻が指定した時間区間に存在する例を示している。

【００８６】検索結果にはイベント記録データ２０が存在するローカル装置やイベント記録の時間区間の情報が含まれるので、センタ装置２は特定のローカル装置１に対し時間区間を指定して所望のイベント記録データ２０を伝送するよう指示し、伝送されてきたイベント記録データ２０を表示することができる。

【００８７】データ管理装置２１がイベント記録データ２０に対するストリームデータ索引情報２３を取得する手段としては幾つか考えられる。一つの例は、ネットワークや専用の信号線でローカル装置１と接続されたセンタ装置２がイベントを発報した際、ローカル装置１がイベント記録を行うとともに、当該イベント記録の時間区間を含むイベント記録メッセージを自発的にデータ管理装置２１に送信し、データ管理装置２１の分散データ管理手段２２がストリームデータ索引情報２３の内容を変更する。

【００８８】また別の例は、ネットワーク５や専用の信号線でセンタ装置２と接続されたセンサ装置がイベントを発報した際、データ管理装置２１がローカル装置１にイベント記録命令を出すとともにデータ管理装置２１の分散データ管理手段２２がストリームデータ索引情報２３を変更する。

【００８９】以上のように、この実施の形態３によれは、データ管理装置２１において分散データ管理手段２２が、ローカル装置１に記録される各イベント記録データ２０の所在を、イベント記録の記録開始時刻と記録終了時刻で表される時間区間を含むストリームデータ索引情報２３により管理し、通信手段９ｃによりセンタ装置２から受信した時間区間を指定したイベント記録されたイベント記録データ２０の所在についてのストリームデータ検索要求メッセージに対し、ストリームデータ索引情報２３をもとに検索して条件に適合するイベント記録データ２０が存在するローカル装置１や時間区間などをストリームデータ検索結果メッセージとして通信手段９ｃによりセンタ装置２へ回答するようにしたので、前記実施の形態１と同様に、多数のローカル装置が存在する場合でもセンタ装置２はデータ管理装置２１に対し一度の問い合わせを行うだけで前記条件に適合するイベント記録データ２０が存在するローカル装置や時間区間等を知ることができ、検索時間が大幅に短縮される効果が得られる。

【００９０】また、データ管理装置２１は、ローカル装置１にイベント記録データの実体を移動することなく、ストリームデータ索引情報２３により管理するため、ＣＰＵ、メモリ、ネットワークといったシステム資源の使用を抑制できる効果が得られる。

【００９１】また、図４から明らかなように、センタ装置２から送られてくるストリームデータ検索要求を、時間区間の指定だけでなくイベント識別子やタイプ、符号化の種類、入力デバイスといった他の情報を検索パラメータとして行って、イベント記録データの所在を問い合わせることができる。

【００９２】さらに、カメラやマイク以外にローカル装置１に接続された図示していないセンサ装置からの計測データや設備の制御データなどの時系列データを映像や音声と同様なストリームデータとしてとらえ、このような時系列データをローカル装置１でイベント記録し、データ管理装置２１においてイベント記録の記録開始時刻と記録終了時刻で表される時間区間を含むストリームデータ索引情報２３により管理することもできる。

【００９３】なお、前記実施の形態１と同様に、複数のデータ管理装置による協調動作や故障時の代替動作、処理能力のあるセンタ装置２やローカル装置などがセンタ装置２の機能を有するように構成することも可能であるし、図４に示したストリームデータ索引情報２３に、あるローカル装置が故障中であることを示す情報など、ローカル装置に関する様々なデータを含めてもよい。

【００９４】実施の形態４．図６は、この実施の形態４のデータ収集方法が適用される監視装置の構成を示すブロック図である。図６において図１および図４と同一または相当の部分については同一の符号を付し説明を省略する。図において、３１は退避保存装置、３２は退避データ蓄積・読出手段（退避保存手段，退避保存管理手段）、３３は退避保存データ、３４は退避保存用記憶装置、９ｄは退避保存装置３１の通信手段である。４１はデータ管理装置（検索手段）、４２は分散データ管理手段（検索手段）、４３はストリームデータ索引情報である。図７は、ストリームデータの退避保存装置３１の退避保存用記憶装置３４への退避保存の方法を示す説明図である。図において、５１は退避保存データ管理テーブル、５２は退避保存実体ファイル、５３は退避保存したイベント記録データ２０のヘッダ情報テーブル、５４は退避保存したエンドレス記録データ１３のヘッダ情報テーブルである。

【００９５】図８は、分散データ管理手段４２が各退避保存装置３１に記録される退避保存データ３３の所在を管理するためのストリームデータ索引情報を示す説明図であり、５５は退避保存データ管理テーブル、５６は退

避保存したイベント記録データのヘッダ情報テーブル、５７は退避保存したエンドレス記録データ１３のヘッダ情報テーブルである。図９は、データ管理装置４１が通信手段９ｃによりセンタ装置２へ回答した検索結果を示す説明図であり、５８は検索条件を満たす退避保存データ、５９は退避保存したイベント記録データについての検索結果、６０は退避保存したエンドレス記録データについての検索結果である。

【００９６】次に動作について説明する。この実施の形態では、ローカル装置１におけるストリームデータの入力、蓄積、読出ならびに通信、およびセンタ装置２でのストリームデータの受信ならびに受信したストリームデータの処理についての動作は前記実施の形態１、前記実施の形態４と同様である。

【００９７】退避保存装置３１はセンタ装置２などからの指令により、指定されたローカル装置１に存在する指定された時間区間のエンドレス記録、イベント記録によるストリームデータを退避保存するため、通信手段９ｄにより当該ローカル装置へ該当するストリームデータの伝送要求を出力してストリームデータを受信する。そして、受信したストリームデータを退避データ蓄積・読出手段３２がハードディスクなどの退避保存用記憶装置３４へ記録するとともに、記録したストリームデータをセンタ装置２からの要求に応じて読み出す。読み出されたストリームデータは通信手段９ｄによりネットワーク５を介してセンタ装置２へ伝送され、センタ装置２の通信手段９ｂにより受信される。

【００９８】この場合の前記ストリームデータの退避保存装置３１への退避保存の方法は、例えば図７に示すように退避保存データ管理テーブル５１へ退避したデータの識別子や退避保存時刻、ストリームデータの種類とヘッダ情報テーブルへの参照ポインタ、退避保存データの実体ファイル名などを記述し、退避データ蓄積・読出手段３２はこの退避保存データ管理テーブル５１を参照して、指定された退避保存されているストリームデータの実体やそのヘッダ情報を読み出す。退避保存したエンドレス記録やイベント記録によるストリームデータのヘッダ情報は、ストリームデータの実体を退避保存する際に当該ローカル装置１より伝送させて取得する。

【００９９】データ管理装置４１の通信手段９ｃは、センタ装置２から送られてきた退避保存装置３１に存在する退避保存されたストリームデータの所在を問い合わせるストリームデータ検索要求メッセージを受信し、分散データ管理手段４２は受信したストリームデータ検索要求を処理して、ストリームデータ検索結果メッセージを通信手段９ｃによりセンタ装置２へ送り返す。ここで分散データ管理手段４２は各退避保存装置３１に記録される退避保存データ３３の所在を、図８に示すようなストリームデータ索引情報により管理する。このストリームデータ索引情報には、各ストリームデータに対する退避

保存識別子や退避保存装置、退避保存したデータの種類とそのヘッダ情報が記述され、各ヘッダ情報には各ローカル装置での記録開始時刻と記録終了時刻で表される時間区間が含まれる。

【０１００】従って、センタ装置２が、例えば全ての退避保存装置に存在する時間区間９６年１２月２６日１４時３０分３０秒から９６年１２月２６日１４時４０分３０秒までの間にローカル装置において記録されたストリームデータの所在を問い合わせた場合、分散データ管理手段４２はヘッダ情報に記述された時間区間から前記検索条件を満足するストリームデータが退避保存装置３１に存在するか否か、存在するのであれば何時から何時までのデータがあるのかを検索する。そして、図９に示すような検索結果を通信手段９ｃによりセンタ装置２へ回答する。図９に示す検索結果では、複数の退避保存装置３１に存在する、イベント記録あるいはエンドレス記録による退避保存されたストリームデータが検索条件に適合した場合を示している。

【０１０１】検索結果にはストリームデータが存在する退避保存装置３１や時間区間の情報が含まれるので、センタ装置２は特定の退避保存装置３１に対し時間区間を指定して所望のストリームデータを伝送するよう指示し、伝送されてきたストリームデータを表示することができる。

【０１０２】退避保存されているストリームデータについてのストリームデータ索引情報をデータ管理装置４１が取得する手段としては幾つか考えられる。一つの例は、退避保存装置３１が退避保存を行うとともに、退避保存に関するメッセージを自発的にデータ管理装置４１へ送信し、分散データ管理手段４２がストリームデータ索引情報の内容を変更する。また別の例は、外部からの退避保存要求はデータ管理装置４１が受付け、データ管理装置４１が退避保存装置３１に退避保存命令を出力し、データ管理装置４１の分散データ管理手段４２がストリームデータ索引情報を変更する。

【０１０３】以上のように、この実施の形態４によれば、データ管理装置４１において、分散データ管理手段４２が退避保存装置３１に退避保存されているストリームデータの所在を当該ストリームデータがローカル装置１で記録された記録開始時刻と記録終了時刻で表される時間区間を含むストリームデータ索引情報により管理し、通信手段９ｃによりセンタ装置２から受信した時間区間を指定した前記退避保存されたストリームデータの所在についてのストリームデータ検索要求メッセージに対してストリームデータ索引情報から検索し、条件に適合するストリームデータが存在する退避保存装置３１や時間区間等をストリームデータ検索結果メッセージとして通信手段９ｃによりセンタ装置２に回答するようにしたので、前記実施の形態１と同様に、多数の退避保存装置が存在する場合でもセンタ装置２は一度の問い合わせ

で、条件に適合するストリームデータが存在する退避保存装置３１についての所在や時間区間などについての情報を得ることができ、検索時間が大幅に短縮される効果が得られる。

【０１０４】また、データ管理装置４１は、退避保存装置３１に記録されたストリームデータの実体を移動することなくストリームデータ索引情報４３により管理するため、ＣＰＵ、メモリ、ネットワークといったシステム資源の使用を抑制することができる。

【０１０５】また、図８に示したストリームデータ索引情報から明らかなように、センタ装置２からのストリームデータ検索要求を、時間区間の指定だけでなく、ヘッダ情報に記述されるイベント識別子やタイプ、符号化の種類、入力デバイスやローカル装置といった他の情報を検索パラメータにして行うことができ、退避保存データの所在を問い合わせることができる。さらに、カメラやマイク以外にローカル装置に接続されたセンサ装置からの計測データや設備の制御データ等の時系列データを映像や音声と同様なストリームデータとしてとらえ、そのような時系列データをローカル装置１でエンドレス記録やイベント記録し、退避保存装置３１に退避保存し、退避保存装置３１に退避保存した退避保存データを、ローカル装置での記録開始時刻と記録終了時刻で表される時間区間を含むストリームデータ索引情報によりデータ管理装置４１において管理することもできる。

【０１０６】なお、前記実施の形態１と同様に、複数のデータ管理装置による協調動作や故障発生時の代替動作、処理能力のある退避保存装置、センタ装置またはローカル装置などがセンタ装置の機能を有した構成も可能である。また、図８に示したストリームデータ索引情報に、故障中である退避保存装置についての情報など、退避保存装置に関する種々のデータを含めてもよい。

【０１０７】実施の形態５．次に、この発明の実施の形態５のデータ収集方法および監視装置について説明する。この実施の形態５のデータ収集方法が適用される監視装置の構成は、前記実施の形態４の図６において示した構成と同様であり、以下の説明では図６を参照する。図１０は、この実施の形態５のデータ収集方法が適用される監視装置のストリームデータ索引情報を示す説明図であり、図において６１はエンドレス記録索引情報、６２はイベント記録索引情報、６３は退避保存索引情報である。図１１は検索結果を示す説明図であり、図において６６はエンドレス記録ヘッダ情報、６７はイベント記録ヘッダ情報、６８は退避保存ヘッダ情報である。

【０１０８】次に動作について説明する。この実施の形態では、ローカル装置１におけるストリームデータの入力、蓄積、読出ならびに通信、およびセンタ装置２でのストリームデータの受信ならびに受信したストリームデータの処理についての動作は、前記実施の形態４と同様である。

【０１０９】この実施の形態４のデータ管理装置４１の通信手段９ｃは、センタ装置２から送られてきたローカル装置１あるいは退避保存装置３１に記録されたストリームデータの所在を問い合わせるストリームデータ検索要求メッセージを受信し、分散データ管理手段４２は当該ストリームデータ検索要求を処理して、ストリームデータ検索結果メッセージを通信手段９ｃによりセンタ装置２へ送り返す。ここで分散データ管理手段４２はローカル装置１の記憶装置４や退避保存装置３１の退避保存用記憶装置３４に記録される各種ストリームデータの所在を、図１０に示すストリームデータ索引情報により管理する。

【０１１０】図１０に示すエンドレス記録索引情報６１は図１に示した前記実施の形態１のストリームデータ索引情報と同様であり、またイベント記録索引情報６２は図４に示した前記実施の形態３のストリームデータ索引情報と同様であり、退避保存索引情報６３は図８に示した前記実施の形態４のストリームデータ索引情報と同様であり、この実施の形態５のストリームデータ索引情報はこれら各ストリームデータ索引情報とその所在を示すポインタテーブル６４から構成される。前記各ストリームデータ索引情報には各ストリームデータに対する、カメラやマイクなどの入力デバイス、ローカル装置、符号化関連、イベント関連、退避保存関連といった情報の他に、各ローカル装置での記録開始時刻と記録終了時刻で表される時間区間が含まれる。

【０１１１】従って、センタ装置２が時間区間を指定したストリームデータ検索要求をした場合、分散データ管理手段４２は各種ストリームデータの時間区間からローカル装置１や退避保存装置３１に検索条件を満足するストリームデータが存在するか否か、存在するのであれば何時から何時までのデータがあるのかを前記各ストリームデータ索引情報６１，６２，６３から検索し、図１１に示す検索結果を通信手段９ｃによりセンタ装置２へ回答する。

【０１１２】図１１では、ローカル装置１に記録されたエンドレス記録データおよびイベント記録データ、退避保存装置３１に退避保存されたストリームデータが検索条件に適合していることを示している。このときの検索要求は全てのローカル装置および退避保存装置に記録されるストリームデータの中から、指定時間区間にローカル装置に記録されているストリームデータの所在を問い合わせるものであり、エンドレス記録かイベント記録か、また存在するのはローカル装置か退避保存装置かといった指定はせず、統一されたローカル装置での記録開始時刻および記録終了時刻で表される時間区間をパラメータとしている。

【０１１３】検索結果にはストリームデータが存在するローカル装置や退避保存装置、時間区間の情報が含まれるので、センタ装置２は特定のローカル装置や退避保存

装置に対し時間区間を指定して所望のストリームデータを伝送するよう指示し、伝送されてきたストリームデータを表示することができる。

【0114】データ管理装置41が、エンドレス記録、イベント記録および退避保存に対するストリームデータ索引情報を取得する手段は、実施例1、実施例3および実施例4で述べたような幾つかの方法が考えられる。

【0115】以上のように、この実施の形態5によれば、データ管理装置41において、分散データ管理手段42がローカル装置1に記録されるエンドレス記録データのエンドレス記録時間幅、ローカル装置1に記録されるイベント記録データの記録開始時刻と記録終了時刻で表される時間区間、退避保存装置31に記録される退避保存データのローカル装置1における記録開始時刻および記録終了時刻で表される時間区間を含むストリームデータ索引情報を管理し、通信手段9cによりセンタ装置2から受信した時間区間を指定したエンドレス記録、イベント記録あるいは退避保存されたストリームデータの所在についてのストリームデータ検索要求メッセージに対して前記ストリームデータ索引情報を検索する。そして、前記条件に適合するストリームデータが存在するローカル装置1や退避保存装置31、時間区間などをストリームデータ検索結果メッセージとして通信手段9cによりセンタ装置2に回答するので、前記実施の形態1と同様に、多数のローカル装置や退避保存装置が存在する場合でもセンタ装置は一度の問い合わせを行うだけで、前記条件に適合するストリームデータが存在するローカル装置1や退避保存装置31、時間区間などについての情報を得ることができ、検索時間が大幅に短縮される。

【0116】また、データ管理装置41は、ローカル装置1や退避保存装置31に記録されたストリームデータの実体を移動することなく、前記ストリームデータ索引情報により管理するため、CPU、メモリ、ネットワークといったシステム資源の使用を抑制することができる。

【0117】さらに、エンドレス記録かイベント記録か、また前記条件に適合するストリームデータが存在するのはローカル装置か退避保存装置かを意識せず、統一されたローカル装置での記録開始時刻および記録終了時刻で表される時間区間で検索でき、センタ装置2の問い合わせ手順が簡略化される。

【0118】また、図10から明らかなように、センタ装置2から送られてくるストリームデータ検索要求を、時間区間の指定だけでなく、イベント識別子やタイプ、符号化の種類、入力デバイスといった他の情報を検索パラメータとして行うことで、ストリームデータの所在を問い合わせることができる。

【0119】また、カメラやマイク以外にローカル装置1に接続された図示していないセンサ装置からの計測データや設備の制御データ等の時系列データを映像や音声と同様なストリームデータとしてとらえ、そのような時系列データをローカル装置1でエンドレス記録やイベント記録し、退避保存装置31に退避保存する。そして、データ管理装置41においてエンドレス記録時間幅、イベント記録の記録開始時刻と記録終了時刻で表される時間区間、ローカル装置における退避保存データの記録開始時刻と記録終了時刻で表される時間区間などを含むストリームデータ索引情報により前記時系列データを管理することもできる。

【0120】なお、前記実施の形態1と同様に、複数のデータ管理装置による協調動作や故障時の代替動作、処理能力のあるセンタ装置やローカル装置などがセンタ装置の機能を備える構成なども可能であるし、図10に示したストリームデータ索引情報に、故障中であるローカル装置や退避保存装置を示す情報などのローカル装置や退避保存装置に関する種々のデータを含めてもよい。

【0121】実施の形態6．図12は、この実施の形態6のデータ収集方法が適用される監視装置の構成を示すブロック図である。図12において図1と同一または相当の部分については同一の符号を付し説明を省略する。図において、71はネットワーク5上のローカル装置1、センタ装置2およびデータ管理装置41における時刻を合致させるためのローカル装置1に設けられた時刻合致手段、72は同様にセンタ装置2に設けられた時刻合致手段、73は同様にデータ管理装置3に設けられた時刻合致手段である。

【0122】次に動作について説明する。この実施の形態のローカル装置1におけるストリームデータの入力、蓄積、読出ならびに通信、およびセンタ装置2におけるストリームデータの受信ならびに受信したストリームデータの処理、さらにデータ管理装置3における分散データ管理とストリームデータ検索処理は前記実施の形態1と同様である。

【0123】ネットワーク5に接続されたローカル装置1、センタ装置2およびデータ管理装置3は時刻合致手段71，72，73を有しているため、これら時刻合致手段がローカル装置1、センタ装置2およびデータ管理装置3の時計をシステム全体で同一の共通時刻に合わせる。これら時刻合致手段71，72，73は例えばUNIXやWindowsで装備されるNTP（Network Time Protocol）といった周知の技術により実現される。

【0124】以上説明したように、この実施の形態6によれば、ローカル装置1、センタ装置2およびデータ管理装置3の各時刻合致手段71，72，73により、ローカル装置1、センタ装置2およびデータ管理装置3は自己の時計をシステム全体の共通時刻に合わせることが可能になるので、ローカル装置1、センタ装置2、データ管理装置3の時計の精度が異なりそのままでは無視できない時刻差が生じる場合でも、時刻差のないストリー

ムデータの管理・検索を実現できる効果がある。

【0125】なお、この実施の形態では前記実施の形態1の構成に対し時刻合致手段を適用するものとして説明したが、前記実施の形態2から前記実施の形態5に対して時刻合致手段を適用する構成であってもよく、前記実施の形態1に適用した場合と同様な効果を得ることができる。

【0126】実施の形態7．図13はこの実施の形態7のデータ収集方法が適用される監視装置の構成を示すブロック図である。図14は、時刻差テーブルを示す説明図である。図13において図1と同一または相当の部分については同一の符号を付し説明を省略する。図13において、81は自己の時計が示している時刻とローカル装置1およびセンタ装置2の時計が示している時刻との時刻差をデータ管理装置（補正値演算手段）3が測定するための時刻差測定手段である。

【0127】次に動作について説明する。この実施の形態のローカル装置1におけるストリームデータの入力、蓄積、読出ならびに通信、およびセンタ装置2におけるストリームデータの受信ならびに受信したストリームデータの処理、さらにデータ管理装置3における分散データ管理とストリームデータ検索処理は前記実施の形態1と同様である。

【0128】データ管理装置3は、時刻差測定手段81により自己の時計が示す時刻とローカル装置1やセンタ装置2の時計が示す時刻との時刻差を測定する。この場合の測定手段の一例としては、データ管理手段3が自己のタイムスタンプを付加した時刻問合わせメッセージを相手装置に送り、相手装置は当該時刻問合わせメッセージを受信すると、即座に前記タイムスタンプとは別に自己のタイムスタンプを付加したリターンメッセージをデータ管理装置3へ送り返す。データ管理装置3では、当該リターンメッセージを受信した際の自己の時計の時刻と前記時刻問合わせメツセージを送信したときのタイムスタンプから往復の伝送遅延時間を計算し、その伝送遅延時間と相手装置のタイムスタンプから時刻差を計算する。伝送遅延のゆらぎが少ないネットワークや装置ならば複数回の問い合わせ処理の結果を平均化することで、精度のよい時刻差を求めることができる。このようにして測定された時刻差は、図14に示すような時刻差テーブルとして保持される。

【0129】一方、センタ装置2から時間区間を指定したストリームデータ検索要求があると、データ管理装置3は前記時刻差テーブルを参照して互いの時刻差を補正した後にストリームデータ索引情報に対し検索を行う。例えば、データ管理装置3との時刻差△Ｔｃ１を有したセンタ装置ｃｅｎｔ１からの検索要求に対し、時刻差△ＴＬ１を有したローカル装置Ｌｏｃ１に存在するストリームデータを検索する際には、センタ装置ｃｅｎｔ１とローカル装置Ｌｏｃ１との時刻差は△ＴＬ１－△Ｔｃ１となるので、ストリームデータ索引情報の時間区間をこの時刻差だけ補正して検索処理する。検索結果は図2に示す内容と同様でもよいが、センタ装置2とローカル装置1の時刻差を加えれば、センタ装置2はローカル装置1に対し前記補正した時間区間でストリームデータの伝送を要求することができる。

【0130】以上のように、この実施の形態7によれば、データ管理装置3において、時刻差測定手段81がデータ管理装置3の時計と各ローカル装置1やセンタ装置2の時計との間で生じている時刻差を測定して時刻差テーブルを作成し、センタ装置2からの時間区間を指定したストリームデータ検索要求に対し、分散データ管理手段11は前記時刻差テーブルにより各装置の時刻差を補正した上でストリームデータ索引情報を検索し、条件に適合するストリームデータが存在するローカル装置1、時刻差、時間区間などを検索結果として回答することができ、ローカル装置1、センタ装置2、データ管理装置3の時計の精度が異なり各時計間の時刻差が無視できない場合でも、時刻差のないストリームデータの管理、検索を実現できる効果がある。

【0131】

【発明の効果】以上のように、請求項1記載の発明によれば、監視対象について得られたストリームデータをネットワーク上の限られた記憶量のメディアに記憶し、前記メディアに記録されている前記ストリームデータの所在についてのストリームデータ索引情報を前記ネットワーク上で集中的に管理し、集中的に管理されている前記ストリームデータ索引情報を検索条件をもとに検索しストリームデータの所在についての検索結果を得て、当該検索結果をもとに、前記検索条件を満足するストリームデータの所在をストリームデータ所在取得過程により取得することにより、当該ストリームデータを記録した前記メディアから前記ストリームデータを取得して前記監視対象についてのストリームデータを収集するように構成したので、記録されているストリームデータの所在を前記ネットワーク上の全てのメディアへ問い合せる必要がなくなり、収集しようとするストリームデータを高速に検索し、効率的に収集できる効果がある。

【0132】請求項2記載の発明によれば、限られた記憶量のメディアをエンドレスに使用することで、監視対象について得られた時間的に連続しているストリームデータをネットワーク上に分散した前記メディアに記録し、前記メディアに前記ストリームデータがエンドレスで記録される際の前記メディアの記憶容量に応じた記録時間幅を含むストリームデータ索引情報をもとに前記ストリームデータの所在についての管理を行い、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索し、前記検索条件を満足する前記ストリームデータの所在についての検索結果を取得するように構成したの

で、前記検索に時間を要する状況下でも、前記記録時間幅から現時点で記録されているストリームデータを知ることができ、また収集しようとするストリームデータを高速に検索し、効率的に収集できる効果がある。

【0133】請求項3記載の発明によれば、監視対象について得られたストリームデータを、ネットワーク上に分散した限られた記憶量のメディアにイベント記録し、前記メディアに前記ストリームデータがイベント記録された際のイベント発生時刻および記録時間についての区間を含むストリームデータ索引情報をもとに前記ストリームデータの所在についての管理を行い、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記ストリームデータの所在を検索し、前記検索条件を満足する検索結果を取得するように構成したので、前記イベント記録によるストリームデータの所在を前記ネットワーク上の全てのメディアへ問い合せる必要がなくなり、収集しようとする前記イベント記録によるストリームデータを高速に検索し、効率的に収集できる効果がある。

【0134】請求項4記載の発明によれば、ネットワーク上に分散したメディアにストリームデータがイベント記録された際のイベント発生時刻および当該イベント発生時刻前後の記録時間幅を含むストリームデータ索引情報をもとに、イベント記録されたストリームデータの所在についての管理を行うように構成したので、前記イベント発生時刻および当該イベント発生時刻前後の前記記録時間幅などをもとに、収集しようとする前記イベント記録によるストリームデータを高速に検索し、効率的に収集できる効果がある。

【0135】請求項5記載の発明によれば、限られた記憶量のメディアをエンドレスに使用することで、ネットワーク上に分散した前記メディアに記録された時間的に連続しているストリームデータを退避保存用メディアに再記録して退避保存し、再記録した前記ストリームデータを、当該ストリームデータの前記メディアへエンドレスで記録された際の記録時間区間を含むストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理し、前記再記録された前記ストリームデータが前記メディアへエンドレスで記録された際の記録時間区間を含むストリームデータ索引情報をもとに、前記再記録されている前記ストリームデータの所在についての管理を行い、前記記録時間区間を含む前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用メディアについての所在を検索し検索結果を取得し、前記退避保存用メディアから前記検索条件を満足するストリームデータを取得し収集するように構成したので、収集しようとするエンドレス記録されたストリームデータの前記退避保存用メディアについての所在を、前記時間区間を含む検索条件をもとに高速に検索して収集できる効果がある。

【0136】請求項6記載の発明によれば、記憶過程によりネットワーク上に分散したメディアにイベント記録された、監視対象について得られたストリームデータを、退避保存用メディアに再記録して退避保存し、再記録した前記ストリームデータを、当該ストリームデータの前記メディアにイベント記録された際のイベント発生時刻および記録時間幅を含むストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理し、前記再記録された前記ストリームデータが前記メディアにイベント記録された際のイベント発生時刻および記録時間幅を含むストリームデータ索引情報をもとに、前記再記録されている前記ストリームデータの所在についての管理を行い、前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用メディアについての所在を検索し検索結果を取得し、取得した前記検索結果をもとに前記退避保存用メディアから前記検索条件を満足する前記ストリームデータを取得して収集するように構成したので、収集しようとするイベント記録による前記ストリームデータの前記退避保存用メディアについての所在を、前記時間区間を含む検索条件をもとに高速に検索して収集できる効果がある。

【0137】請求項7記載の発明によれば、ネットワーク上に分散したメディアに記録されているストリームデータの所在を、統一化した時刻をもとにストリームデータ索引情報により管理し、前記統一化した時刻による指定を含む検索条件をもとに前記ストリームデータ索引情報に対しストリームデータの所在を検索し、前記検索条件を満足するストリームデータの所在についての検索結果を取得するように構成したので、収集しようとする前記ストリームデータの前記メディアについての所在を、前記統一化されて管理されている時刻による指定を含む検索条件をもとに高速に検索し、効率的に収集できる効果がある。

【0138】請求項8記載の発明によれば、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記現在時刻情報の授受を行った際の当該現在時刻情報間において発生している時刻差を測定し、前記ストリームデータの処理で使用している時刻についての補正値を、前記測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求め、前記ネットワーク上に分散したメディアに記録されているストリームデータのストリーム

データ索引情報をもとに前記ストリームデータの所在および前記求めた補正値を管理し、前記ストリームデータ索引情報に対し、検索条件として指定される時刻や検索結果における時刻を前記管理している前記補正値をもとに補正して、前記検索条件を満足するストリームデータの所在を検索し、検索が行われた際に補正されたストリームデータの所在についての前記ストリームデータ索引情報の検索結果を取得して前記検索条件を満足するストリームデータを前記メディアから取得するように構成したので、前記ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻について違いが生じている状況下でも前記補正値により補正された前記ストリームデータの所在についての検索結果をもとに、精度の高いストリームデータの収集が可能となる効果がある。

【０１３９】請求項９記載の発明によれば、補正されたストリームデータ索引情報の検索結果をもとに、検索条件を満足するストリームデータを記録したメディアから前記ストリームデータを取得する際の前記メディアとの間で生じているメディア間時間差を知り、当該メディア間時間差をもとに補正した検索条件を満足するストリームデータを記録した前記メディアから当該ストリームデータを取得するように構成したので、前記メディアにおいて使用している時刻との間に違いが生じている状況下でも、前記補正した検索条件を満足する前記ストリームデータの所在を前記メディアについて検索でき、精度の高いストリームデータの収集が可能となる効果がある。

【０１４０】請求項１０記載の発明によれば、退避保存用メディアに再記録したストリームデータを統一した時刻をもとに管理し、前記退避保存用メディアに再記録されているストリームデータの所在を前記統一化した時刻をもとにしたストリームデータ索引情報により管理し、前記ストリームデータ索引情報に対し、前記統一化した時刻による指定を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を退避保存用メディアについて検索し、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在についての検索結果を取得するように構成したので、収集しようとするストリームデータの前記退避保存用メディアについての所在を、前記統一化した時刻による指定を含む検索条件をもとに高速に検索して収集できる効果がある。

【０１４１】請求項１１記載の発明によれば、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、授受を行った際の当該現在時刻情報間において発生している時刻差を測定し、前記ストリームデータの処理で使用している時刻についての補正値を、前記時刻差をもとに前記ネットワーク上で前記現在時刻情報を授受した一方において求め、退避保存用メディアに再記録されているストリームデータのストリームデータ索引情報をもとに前記ストリームデータの所在を管理し、さらに前記補正値を管理し、前記ストリームデータ索引情報に対し検索条件として指定される時刻や検索結果における時刻を前記補正値をもとに補正して、前記検索条件を満足するストリームデータの前記退避保存用メディアについての所在を検索し、前記補正値により補正された前記ストリームデータの所在についての前記ストリームデータ索引情報の検索結果を取得し、取得した前記検索結果をもとに、前記検索条件を満足するストリームデータを前記退避保存用メディアから取得するように構成したので、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻に時刻差が生じている状況下でも前記補正値により補正することで前記時刻差がない状態での検索結果を知ることができ、前記時刻差を考慮した上での正確なストリームデータの所在を取得し、ストリームデータの収集を行うことができる効果がある。

【０１４２】請求項１２記載の発明によれば、現在時刻情報の授受を行うのに要した伝送時間による伝送時間差を含む時刻差をもとに補正値を求めるように構成したので、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻に時刻差が生じている状況下でも、前記伝送時間による伝送時間差を含む前記補正値により補正することで、前記時刻差がない状態での検索結果を知ることができ、前記時刻差を考慮した上での正確なストリームデータの所在を取得し、ストリームデータの収集を行うことができる効果がある。

【０１４３】請求項１３記載の発明によれば、補正されたストリームデータ索引情報の検索結果をもとに、検索条件を満足するストリームデータを記録した退避保存用メディアから前記ストリームデータを取得する際の前記退避保存用メディアとの間で生じているメディア間時間差を知り、当該メディア間時間差をもとに検索条件を満足するストリームデータを記録した前記退避保存用メディアから当該ストリームデータを取得するように構成したので、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻に時刻差が生じている状況下でも、前記メディア間時間差を考慮した上での正確なストリームデータの所在を取得し、ストリームデータの収集を効率的に行うことができる効果がある。

【０１４４】請求項１４記載の発明によれば、ネットワーク上に分散したメディアにエンドレスで記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記ストリームデータの所在を管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索し、前記検索条件を満足する検索結果を取得するように構成したの

で、前記検索条件の前記時刻などから記録されているストリームデータを知ることができ、収集しようとするストリームデータを高速に検索できる効果がある。

【0145】請求項15記載の発明によれば、ストリームデータ索引情報に対し、ストリームデータを特定する時刻および時間的な幅を含む検索条件と現在時刻とをもとに当該検索条件を満足するストリームデータの所在を検索し、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とを含むストリームデータの所在についての検索結果を取得するように構成したので、前記検索条件の前記時刻および前記時間的な幅と前記現在時刻により検索して取得した記録開始時刻と記録終了時刻とを含むストリームデータの所在についての検索結果から、記録されているストリームデータを知ることができ、収集しようとするストリームデータを高速に検索できる効果がある。

【0146】請求項16記載の発明によれば、検索条件を満足するストリームデータの記録開始時刻と記録終了時刻、および前記検索条件を満足するストリームデータを記録したメディアのエンドレス記録時間幅を含むストリームデータの所在についての検索結果を取得するように構成したので、前記記録開始時刻、前記記録終了時刻、および前記エンドレス記録時間幅を含むストリームデータの所在についての検索結果から、現時点で記録されているストリームデータを知ることができ、収集しようとするストリームデータを高速に検索できる効果がある。

【0147】請求項17記載の発明によれば、ネットワーク上に分散したメディアにエンドレス記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記ストリームデータの所在を管理し、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを検索条件として当該検索条件を満足するストリームデータの所在を検索し、前記検索条件を満足する検索結果を取得するように構成したので、記録されているストリームデータの所在を前記ネットワーク上の全てのメディアへ問い合せる必要がなくなり、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などの検索条件から、収集しようとするストリームデータを高速に検索できる効果がある。

【0148】請求項18記載の発明によれば、ストリームデータをイベント記録したメディア毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在を管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに検索し、前記検索条件を満足する検索結果を取得するように構成したので、前記イベント記録によるストリームデータの所在を前記ネットワーク上の全てのメディアへ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時刻を含む検索条件から、収集しようとする前記イベント記録によるストリームデータを高速に検索し効率的に収集できる効果がある。

【0149】請求項19記載の発明によれば、イベント記録されているストリームデータの所在を前記イベント記録の時間区間を含む検索条件をもとにストリームデータ索引情報に対し検索し、前記検索条件におけるイベント記録の前記時間区間にイベント記録時間の全部または一部が含まれるイベント記録されているストリームデータの所在についての検索結果を取得するように構成したので、前記時間区間にイベント記録時間の全部または一部が含まれるストリームデータの所在を前記ネットワーク上の全てのメディアへ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時刻を含む検索条件から、収集しようとする前記イベント記録によるストリームデータを高速に検索できる効果がある。

【0150】請求項20記載の発明によれば、ストリームデータをイベント記録したメディア毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたそれぞれのストリームデータの所在を管理し、前記イベント識別子や前記タイプなどのイベントそのものについての情報、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などの検索条件をもとに前記ストリームデータ索引情報を検索し、前記検索条件を満足する検索結果をもとに前記メディアから前記検索条件を満足するストリームデータを取得して収集するように構成したので、前記ストリームデータの所在を前記ネットワーク上の全てのメディアへ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時刻を含む検索条件から、収集しようとする前記イベント記録によるストリームデータを高速に検索し効率的に収集できる効果がある。

【0151】請求項21記載の発明によれば、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、タイプ、前記ストリームデータが得られた端末、ならびに退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたエンド

レス記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いなどによるストリームデータ索引情報をもとに、前記ストリームデータの前記退避保存用メディアについての所在を管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに検索し、前記検索条件を満足する検索結果を取得するように構成したので、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用メディアへ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時刻を含む検索条件から、収集しようとする前記ストリームデータを高速に検索できる効果がある。

【０１５２】請求項２２記載の発明によれば、ストリームデータ索引情報に対し、エンドレス記録されたストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに検索し、前記検索条件を満足する記録開始時刻と記録終了時刻からストリームデータの退避保存用メディアについての所在を取得するように構成したので、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用メディアへ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時間区間を含む検索条件や現在時刻から、収集しようとする前記ストリームデータを高速に検索できる効果がある。

【０１５３】請求項２３記載の発明によれば、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られた端末、ならびに退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いを示すタイプなどによるストリームデータ索引情報をもとに、前記ストリームデータの前記退避保存用メディアについての所在を管理し、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られた端末などを検索条件として当該検索条件を満足するストリームデータの退避保存用メディアについての所在を検索するように構成したので、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用メディアへ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記検索条件から、収集しようとする前記ストリームデータを高速に検索できる効果がある。

【０１５４】請求項２４記載の発明によれば、退避保存用メディアへ再記録されたイベント記録によるストリームデータに対する退避保存識別子、退避保存用メディアの区別情報、前記ストリームデータの種類および、退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報などによるストリームデータ索引情報をもとに前記イベント記録によるストリームデータの前記退避保存用メディアについての所在を管理し、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記イベント記録によるストリームデータの前記退避保存用メディアについての所在を検索し、前記検索条件を満足するストリームデータの前記退避保存用メディアについての所在を取得するように構成したので、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用メディアへ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時刻を含む検索条件から、収集しようとする前記ストリームデータを高速に検索できる効果がある。

【０１５５】請求項２５記載の発明によれば、ストリームデータ索引情報に対し、ストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足するストリームデータの退避保存用メディアについての所在を検索し、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの所在を取得するように構成したので、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用メディアへ問い合せる必要がなくなり、前記時間区間を含む検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とから、収集しようとするストリームデータを高速に検索できる効果がある。

【０１５６】請求項２６記載の発明によれば、イベント記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプ、前記ストリームデータが得られた端末、ならびに退避保存用メディアに再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報に対し、ストリームデータの発生手段、ストリームデータのデータ処理形式、イベント識別子、タイプまたはストリームデータが得られた端末などを検索条件として当該検索条件を満足する前記ストリームデータの退避保存用メディアについての所在を検索し、前記検索条件を満足する前記ストリームデータの退避保存用メディアについての所在を取得し、取得した前記検索条件を満足する前記ストリームデータの所在をもとに、退避保存用メディアからストリームデータを取得して収集するように構成したので、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用メディアへ問い合せる必要がなくなり、前記ヘッダ情報と前記検索条件から、収集しようとする前記ストリームデータを高速に検索し効率的に収集できる効果がある。

【０１５７】請求項２７記載の発明によれば、監視対象について得られたストリームデータをネットワーク上の限られた記憶量の記憶装置に記録する前記ネットワーク

上に分散して配置されたローカル装置と、前記記憶装置へ記録されている前記ストリームデータの所在についてのストリームデータ索引情報を前記ネットワーク上で集中的に管理するデータ管理装置と、集中的に管理されている前記ストリームデータ索引情報を検索条件をもとに検索する検索手段と、該検索手段による検索結果により取得した前記ストリームデータの所在をもとに、前記記憶装置からストリームデータを得て前記監視対象についてのストリームデータを収集するセンタ装置と、前記ネットワーク上で前記ストリームデータなど各種情報の送受信を行うための通信手段とを備えるように構成したので、前記センタ装置は、前記記憶装置に記録されているストリームデータの所在を前記ネットワーク上の全ての記憶装置へ問い合せる必要がなくなり、前記検索手段は、前記センタ装置が収集しようとするストリームデータを高速に検索できる効果がある。

【０１５８】請求項２８記載の発明によれば、限られた記憶量の記憶装置をエンドレスに使用することで、監視対象について得られた時間的に連続しているストリームデータをネットワーク上の前記記憶装置に記録するローカル装置と、前記ネットワーク上の前記記憶装置に前記ストリームデータがそれぞれエンドレスで記録される際の前記記憶装置の記憶容量に応じた記録時間幅を含むストリームデータ索引情報をもとに前記ストリームデータの所在についての管理を行うデータ管理装置と、前記記録時間幅を含む前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索する検索手段と、前記時刻を含む検索条件を満足する前記ストリームデータの所在についての検索結果により取得した前記ストリームデータの所在をもとに、前記記憶装置から前記ストリームデータを得て前記監視対象についてのストリームデータを収集するセンタ装置とを備えるように構成したので、前記検索に時間を要する状況下でも、前記センタ装置は前記記録時間幅から現時点で記録されているストリームデータを知ることができ、また前記検索手段は前記センタ装置が収集しようとするストリームデータを高速に検索できる効果がある。

【０１５９】請求項２９記載の発明によれば、監視対象について得られたストリームデータを、ネットワーク上の限られた記憶量の記憶装置にイベント記録するローカル装置と、前記記憶装置に前記ストリームデータがイベント記録された際のイベント発生時刻および記録時間についての区間を含むストリームデータ索引情報をもとに前記ストリームデータの所在についての管理を行うデータ管理装置と、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するイベント記録されたストリームデータの所在を検索する検索手段と、前記時刻を含む検索条件を満足するイベント記録されたストリームデータの所在についての検索結果をもとに、当該ストリームデータを記録した前記記憶装置から前記ストリームデータを得て前記監視対象についてのストリームデータを収集するセンタ装置とを備えるように構成したので、前記センタ装置は前記イベント記録によるストリームデータの所在を前記ネットワーク上の全ての記憶装置へ問い合せる必要がなくなり、前記センタ装置が収集しようとする前記イベント記録によるストリームデータを高速に検索できる効果がある。

【０１６０】請求項３０記載の発明によれば、ネットワーク上の記憶装置にストリームデータがイベント記録された際のイベント発生時刻および当該イベント発生時刻前後の記録時間幅を含むストリームデータ索引情報をもとに、前記イベント記録されたストリームデータの所在についての管理を行うデータ管理装置を備えるように構成したので、前記センタ装置は、前記イベント発生時刻および当該イベント発生時刻前後の前記記録時間幅などをもとに、収集しようとする前記イベント記録によるストリームデータを高速に検索して収集できる効果がある。

【０１６１】請求項３１記載の発明によれば、限られた記憶量の記憶装置をエンドレスに使用することで当該記憶装置に記録された、時間的に連続しているストリームデータを、退避保存用記憶装置に再記録して退避保存する退避保存手段と、ストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により前記再記録したストリームデータを管理する退避保存管理手段と、前記再記録された前記ストリームデータが前記記憶装置へエンドレスで記録された際の記録時間区間を含むストリームデータ索引情報をもとに、前記退避保存用記憶装置に再記録されている前記ストリームデータの所在についての管理を行うデータ管理装置と、前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータを再記録している前記退避保存用記憶装置についての所在を検索する検索手段と、該検索手段による検索結果をもとに、当該ストリームデータを再記録した前記退避保存用記憶装置からストリームデータを取得して収集するセンタ装置とを備えるように構成したので、前記センタ装置は、収集しようとするエンドレス記録されたストリームデータの前記退避保存用記憶装置についての所在を前記時間区間を含む検索条件をもとに高速に検索し、前記ストリームデータを効率的に収集できる効果がある。

【０１６２】請求項３２記載の発明によれば、記憶装置へイベント記録された、監視対象について得られたストリームデータを、退避保存用記憶装置に再記録して退避保存する退避保存手段と、該退避保存手段により再記録した前記ストリームデータを、当該ストリームデータの属性を記述したヘッダ情報と、前記ストリームデータの

識別子や種類、前記ヘッダ情報や前記退避保存したストリームデータ実体への参照ポインタなどの退避保存管理情報により管理する退避保存管理手段と、前記再記録された前記ストリームデータが前記記憶装置にイベント記録された際のイベント発生時刻および記録時間幅を含むストリームデータ索引情報をもとに、前記再記録されている前記ストリームデータの所在についての管理を行うデータ管理装置と、前記ストリームデータ索引情報に対し、時間区間を含む検索条件をもとに当該検索条件を満足するストリームデータの前記退避保存用記憶装置についての所在を検索する検索手段と、該検索条件を満足する検索結果をもとに、前記退避保存用記憶装置からストリームデータを収集するセンタ装置とを備えるように構成したので、前記センタ装置は、収集しようとするイベント記録による前記ストリームデータの前記退避保存用記憶装置についての所在を、前記時間区間を含む検索条件をもとに高速に検索し、前記ストリームデータを効率的に収集できる効果がある。

【０１６３】請求項３３記載の発明によれば、ネットワーク上の時刻を統一するための時刻合致手段と、前記ネットワーク上の記憶装置に記録されているストリームデータの所在を、前記時刻合致手段により統一化した時刻をもとにストリームデータ索引情報により管理するデータ管理装置と、前記統一化した時刻による指定を含む検索条件をもとに前記ストリームデータ索引情報に対し前記検索条件を満足するストリームデータの所在を検索する検索手段と、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在についての検索結果を取得するセンタ装置とを備えるように構成したので、前記センタ装置は、収集しようとする前記ストリームデータの前記記憶装置についての所在を、前記統一化されて管理されている時刻による指定を含む検索条件をもとに高速に検索し、前記ストリームデータを効率的に収集できる効果がある。

【０１６４】請求項３４記載の発明によれば、ネットワーク上でそれぞれ行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、前記授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定手段と、前記ストリームデータの処理で使用している時刻についての補正値を、前記測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算手段と、前記ネットワーク上の記憶装置に記録されているストリームデータのストリームデータ索引情報をもとに、前記ストリームデータの所在を管理するとともに前記補正値演算手段が求めた補正値を管理するデータ管理装置と、前記ストリームデータ索引情報に対し、検索条件として指定される時刻や検索結果における時刻を前記補正値をもとに補正して、前記検索条件を満足するストリームデータの所在を検索する検索手段と、該検索手段により検索が行われた際に補正されたストリームデータの所在についての前記ストリームデータ索引情報の検索結果をもとに前記検索条件を満足するストリームデータを前記記憶装置から収集するセンタ装置とを備えるように構成したので、前記センタ装置は、前記ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻について違いが生じている状況下でも前記補正値により補正された前記ストリームデータの所在についての検索結果をもとに、精度の高いストリームデータの収集を行うことができる効果がある。

【０１６５】請求項３５記載の発明によれば、センタ装置が取得した補正されたストリームデータ索引情報の検索結果をもとに、当該センタ装置は検索条件を満足するストリームデータを記録した記憶装置から前記ストリームデータを取得する際の前記記憶装置との間で生じているメディア間時間差を知り、当該メディア間時間差をもとに補正した検索条件を満足するストリームデータを記録した前記記憶装置から当該ストリームデータを取得し収集するように構成したので、前記記憶装置において使用している時刻との間に違いが生じている状況下でも、前記センタ装置は前記補正した検索条件を満足する前記ストリームデータの所在を前記記憶装置について検索し知ることができ、精度の高いストリームデータの収集が可能となる効果がある。

【０１６６】請求項３６記載の発明によれば、ネットワーク上の時刻を統一するための時刻合致手段と、退避保存手段により再記録したストリームデータを、前記統一した時刻をもとに管理する退避保存管理手段と、退避保存用記憶装置に再記録されているストリームデータの所在を前記統一化した時刻をもとにしたストリームデータ索引情報により管理するデータ管理装置と、前記ストリームデータ索引情報に対し、前記統一化した時刻による指定を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を退避保存用記憶装置について検索する検索手段と、前記統一化した時刻による指定を含む検索条件を満足するストリームデータの所在についての検索結果を取得し、当該ストリームデータを退避保存用記憶装置から収集するセンタ装置とを備えるように構成したので、前記センタ装置は、収集しようとするストリームデータの前記退避保存用記憶装置についての所在を、前記統一化した時刻による指定を含む検索条件をもとに高速に検索して知り、前記ストリームデータを効率的に収集できる効果がある。

【０１６７】請求項３７記載の発明によれば、ネットワーク上で分散してそれぞれ行われるストリームデータの処理において使用されている時刻についての現在時刻情報を前記ネットワーク上で授受し、授受を行った際の当該現在時刻情報間において発生している時刻差を測定する時刻差測定手段と、前記ストリームデータの処理で使

用している時刻についての補正値を、前記測定した前記時刻差をもとに、前記ネットワーク上で前記現在時刻情報を授受した一方において求める補正値演算手段と、退避保存用記憶装置に再記録されているストリームデータのストリームデータ索引情報をもとに、前記ストリームデータの所在を管理するとともに前記補正値演算手段により求めた補正値を管理するデータ管理装置と、前記ストリームデータ索引情報に対し、検索条件として指定される時刻や検索結果における時刻を前記データ管理装置で管理している前記補正値をもとに補正して、前記検索条件を満足するストリームデータの前記退避保存用記憶装置についての所在を検索する検索手段と、該検索手段により検索が行われた際に補正された前記ストリームデータの所在についての前記ストリームデータ索引情報の検索結果をもとに、前記退避保存用記憶装置からストリームデータを収集するセンタ装置とを備えるように構成したので、前記センタ装置は、前記ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻に時刻差が生じている状況下でも、前記補正値により補正することで前記時刻差がない状態での検索結果を知ることができ、前記時刻差を考慮した上での正確なストリームデータの所在を取得し、ストリームデータの収集を効率的に行うことができる効果がある。

【0168】請求項38記載の発明によれば、現在時刻情報の授受を行うのに要した伝送時間による伝送時間差を含む時刻差をもとに、補正値演算手段が補正値を求めるように構成したので、前記センタ装置は、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻に時刻差が生じている状況下でも、前記伝送時間による伝送時間差を含む前記補正値により補正することで、前記時刻差がない状態での検索結果を知ることができ、前記伝送時刻差を考慮した上での正確なストリームデータの所在を取得して、前記ストリームデータの収集を効率的に行うことができる効果がある。

【0169】請求項39記載の発明によれば、補正されたストリームデータ索引情報の検索結果をもとに、センタ装置は検索条件を満足するストリームデータを記録した退避保存用記憶装置から前記ストリームデータを取得する際の前記退避保存用記憶装置との間で生じているメディア間時間差を知り、当該メディア間時間差をもとに補正した検索条件を満足するストリームデータを記録した前記退避保存用記憶装置から当該ストリームデータを取得するように構成したので、ネットワーク上で分散して行われるストリームデータの処理において使用されている時刻に時刻差が生じている状況下でも、前記センタ装置は、前記メディア間時間差を考慮した上での正確なストリームデータの所在を取得し、精度の良い前記ストリームデータの収集を効率的に行うことができる効果がある。

【0170】請求項40記載の発明によれば、ネットワーク上の記憶装置にエンドレスで記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記ストリームデータの所在を管理するデータ管理装置と、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索する検索手段と、前記検索条件を満足する前記ストリームデータ索引情報の検索結果をもとに前記記憶装置から前記検索条件を満足するストリームデータを取得するセンタ装置とを備えるように構成したので、前記センタ装置は、前記検索条件の前記時刻などから、前記記憶装置に記録されているストリームデータを知ることができ、収集しようとするストリームデータを高速に検索して効率的に収集できる効果がある。

【0171】請求項41記載の発明によれば、ストリームデータ索引情報に対し、ストリームデータを特定する時刻および時間的な幅を含む検索条件と現在時刻とをもとに当該検索条件を満足するストリームデータの所在を検索する検索手段と、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とを含むストリームデータの所在についての検索結果をもとに、記憶装置から前記検索条件を満足するストリームデータを取得するセンタ装置とを備えるように構成したので、前記センタ装置は、前記検索条件の前記時刻および前記時間的な幅と前記現在時刻により検索して取得した記録開始時刻と記録終了時刻とを含むストリームデータの所在についての検索結果から、前記記憶装置に記録されているストリームデータを知ることができ、収集しようとするストリームデータを高速に検索し効率的に収集できる効果がある。

【0172】請求項42記載の発明によれば、検索条件を満足するストリームデータの記録開始時刻と記録終了時刻、および前記検索条件を満足するストリームデータを記録した記憶装置のエンドレス記録時間幅を含むストリームデータの所在についての検索結果をもとに、前記記憶装置から前記検索条件を満足するストリームデータを取得するセンタ装置を備えるように構成したので、前記センタ装置は、前記記録開始時刻、前記記録終了時刻、および前記エンドレス記録時間幅を含むストリームデータの所在についての検索結果から、現時点で記録されているストリームデータを知ることができ、収集しようとするストリームデータを高速に検索し効率的に収集できる効果がある。

【0173】請求項43記載の発明によれば、ネットワーク上の記憶装置にエンドレス記録されているストリームデータの記録時間幅、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとに前記それぞれのスト

リームデータの所在を管理するデータ管理装置と、前記ストリームデータ索引情報に対し、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを検索条件として当該検索条件を満足するストリームデータの所在を検索する検索手段と、前記ストリームデータ索引情報の検索結果をもとに、前記記憶装置から前記検索条件を満足するストリームデータを取得するセンタ装置とを備えるように構成したので、前記センタ装置は、前記記憶装置に記録されているストリームデータの所在を前記ネットワーク上の全ての記憶装置へ問い合せる必要がなくなり、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などの検索条件から、収集しようとするストリームデータを高速に検索し効率的に収集できる効果がある。

【０１７４】請求項４４記載の発明によれば、ストリームデータをイベント記録した記憶装置毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたストリームデータの所在を管理するデータ管理装置と、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足するストリームデータの所在を検索する検索手段と、前記検索条件を満足するストリームデータの所在についての検索結果をもとに、前記記憶装置からストリームデータを取得するセンタ装置とを備えるように構成したので、前記センタ装置は、前記イベント記録によるストリームデータの所在を前記ネットワーク上の全ての記憶装置へ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時刻を含む検索条件から、収集しようとする前記イベント記録によるストリームデータを高速に検索し効率的に収集できる効果がある。

【０１７５】請求項４５記載の発明によれば、イベント記録されているストリームデータの所在を前記イベント記録の時間区間を含む検索条件をもとにストリームデータ索引情報に対し検索を行う検索手段と、前記検索条件におけるイベント記録の前記時間区間にイベント記録時間の全部または一部が含まれるストリームデータの所在についての検索結果を取得し、取得した前記検索結果をもとに記憶装置からストリームデータを取得するセンタ装置を備えるように構成したので、前記センタ装置は、前記時間区間にイベント記録時間の全部または一部が含まれるストリームデータの所在を前記ネットワーク上の全ての記憶装置へ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時刻を含む検索条件から、収集しようとする前記イベント記録によるストリームデータを高速に検索し効率的に収集できる効果がある。

【０１７６】請求項４６記載の発明によれば、ストリームデータをイベント記録した記憶装置毎のイベント発生時刻と当該イベント発生時刻前後の記録時間幅、イベント識別子やタイプなどのイベントそのものについての情報、前記イベント記録の記録開始時刻および記録終了時刻、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などを含むストリームデータ索引情報をもとにイベント記録されたストリームデータの所在を管理するデータ管理装置と、前記イベント識別子や前記タイプなどのイベントそのものについての情報、前記ストリームデータの発生手段、前記ストリームデータのデータ処理形式などの検索条件をもとに当該検索条件を満足するストリームデータの所在を検索する検索手段と、前記検索条件を満足するストリームデータの所在についての検索結果を取得し、前記記憶装置からストリームデータを収集するセンタ装置とを備えるように構成したので、前記センタ装置は、前記ストリームデータの所在を前記ネットワーク上の全ての記憶装置へ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記検索条件から、収集しようとする前記イベント記録によるストリームデータを高速に検索し効率的に収集できる効果がある。

【０１７７】請求項４７記載の発明によれば、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、タイプ、前記ストリームデータが得られたローカル装置、ならびに退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用メディアへ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用メディアの区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いなどによるストリームデータ索引情報をもとに、ストリームデータの前記退避保存用記憶装置についての所在を管理するデータ管理装置と、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記ストリームデータの前記退避保存用記憶装置についての所在を検索する検索手段と、前記検索条件を満足する前記ストリームデータの前記退避保存用記憶装置についての所在に関する検索結果を取得するセンタ装置とを備えるように構成したので、前記センタ装置は、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用記憶装置へ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時刻を含む検索条件から、収集しようとする前記ストリームデータを高速に検索し効率的に収集できる効果がある。

【０１７８】請求項４８記載の発明によれば、ストリームデータ索引情報に対し、エンドレス記録されたストリームデータを特定する時間区間を含む検索条件や現在時刻をもとに当該検索条件を満足する前記ストリームデー

タの退避保存用記憶装置についての所在を検索する検索手段と、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの前記退避保存用記憶装置についての所在を取得するセンタ装置とを備えるように構成したので、前記センタ装置は、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用記憶装置へ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時間区間を含む検索条件や現在時刻から、収集しようとする前記ストリームデータを高速に検索し効率的に収集できる効果がある。

【０１７９】請求項４９記載の発明によれば、エンドレス記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、前記ストリームデータが得られたローカル装置、ならびに退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報、および当該ヘッダ情報を指定する参照ポインタ、退避保存用記憶装置へ再記録されたエンドレス記録によるストリームデータに対する保存退避識別子、退避保存用記憶装置の区別情報ならびに前記ストリームデータの前記エンドレス記録やイベント記録の違いを示すタイプなどによるストリームデータ索引情報に対し、ストリームデータの発生手段、ストリームデータのデータ処理形式、ストリームデータが得られたローカル装置などを検索条件として当該検索条件を満足するストリームデータの退避保存用記憶装置についての所在を検索する検索手段と、前記検索条件を満足するストリームデータの退避保存用記憶装置についての検索結果を取得し、取得した前記検索条件を満足するストリームデータを退避保存用記憶装置から収集するセンタ装置とを備えるように構成したので、前記センタ装置は、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用記憶装置へ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記検索条件から、収集しようとする前記ストリームデータを高速に検索し効率的に収集できる効果がある。

【０１８０】請求項５０記載の発明によれば、退避保存用記憶装置へ再記録されたイベント記録によるストリームデータに対する退避保存識別子、退避保存用記憶装置の区別情報、前記ストリームデータの種類および、退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報などによるストリームデータ索引情報をもとに前記ストリームデータの前記退避保存用記憶装置についての所在を管理するデータ管理装置と、前記ストリームデータ索引情報に対し、時刻を含む検索条件をもとに当該検索条件を満足する前記イベント記録によるストリームデータの前記退避保存用記憶装置についての所在を検索する検索手段と、取得した前記検索条件を満足するストリームデータの前記退避保存用記憶装置についての所在をもとに、退避保存用記憶装置から当該ストリームデータを取得して収集するセンタ装置とを備えるように構成したので、前記センタ装置は、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用記憶装置へ問い合せる必要がなくなり、前記ストリームデータ索引情報と前記時刻を含む検索条件から、収集しようとする前記ストリームデータを高速に検索し効率的に収集できる効果がある。

【０１８１】請求項５１記載の発明によれば、ストリームデータ索引情報に対し、ストリームデータを特定する時間区間を含む検索条件や現在時刻をもとにストリームデータの退避保存用記憶装置についての所在を検索する検索手段と、前記検索条件を満足するストリームデータの記録開始時刻と記録終了時刻とをもとにストリームデータの所在を退避保存用記憶装置について取得するセンタ装置とを備えるように構成したので、前記センタ装置は、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用記憶装置へ問い合せる必要がなくなり、前記時間区間を含む検索条件や前記現在時刻をもとに検索を行った際の検索結果を満足する前記ストリームデータの記録開始時刻と記録終了時刻とから、収集しようとするストリームデータを高速に検索し、効率的に収集できる効果がある。

【０１８２】請求項５２記載の発明によれば、イベント記録によるストリームデータの発生手段、前記ストリームデータのデータ処理形式、イベント識別子、タイプ、前記ストリームデータが得られたローカル装置、ならびに退避保存用記憶装置に再記録されている前記ストリームデータの記録時間区間を含むヘッダ情報に対し、ストリームデータの発生手段、ストリームデータのデータ処理形式、イベント識別子、タイプまたはストリームデータが得られたローカル装置などを検索条件として当該検索条件を満足する前記ストリームデータの退避保存用記憶装置についての所在を検索する検索手段と、前記検索条件を満足する前記ストリームデータの退避保存用記憶装置についての所在を前記検索結果から取得し、取得した前記所在をもとに退避保存用記憶装置から当該ストリームデータを取得して収集するセンタ装置とを備えるように構成したので、前記センタ装置は、前記ストリームデータの所在を前記ネットワーク上の全ての退避保存用記憶装置へ問い合せる必要がなくなり、前記ヘッダ情報と前記検索条件から、収集しようとする前記ストリームデータを高速に検索し効率的に収集できる効果がある。

【図面の簡単な説明】

【図１】　この発明の実施の形態１によるデータ収集方法が適用される監視装置の構成を示すブロック図である。

【図２】　この発明の実施の形態１によるデータ収集方法が適用される監視装置の検索結果を示す説明図である。

【図３】　この発明の実施の形態２によるデータ収集方

法が適用される監視装置の検索結果を示す説明図である。

【図4】　この発明の実施の形態3によるデータ収集方法が適用される監視装置の構成を示すブロック図である。

【図5】　この発明の実施の形態3によるデータ収集方法が適用される監視装置の検索結果を示す説明図である。

【図6】　この発明の実施の形態4によるデータ収集方法が適用される監視装置の構成を示すブロック図である。

【図7】　この発明の実施の形態4によるデータ収集方法が適用される監視装置におけるストリームデータの退避保存用記憶装置への退避保存の方法を示す説明図である。

【図8】　この発明の実施の形態4によるデータ収集方法が適用される監視装置における分散データ管理手段による退避保存装置に記録される退避保存データの所在を管理するためのストリームデータ索引情報を示す説明図である。

【図9】　この発明の実施の形態4によるデータ収集方法が適用される監視装置におけるデータ管理装置からセンタ装置へ回答された検索結果を示す説明図である。

【図10】　この発明の実施の形態5のデータ収集方法が適用される監視装置のストリームデータ索引情報を示す説明図である。

【図11】　この発明の実施の形態5のデータ収集方法が適用される監視装置の検索結果を示す説明図である。

【図12】　この発明の実施の形態6によるデータ収集方法が適用される監視装置の構成を示すブロック図である。

【図13】　この発明の実施の形態7によるデータ収集方法が適用される監視装置の構成を示すブロック図である。

【図14】　この発明の実施の形態7によるデータ収集方法が適用される監視装置における時刻差テーブルの構成を示す説明図である。

【図15】　従来の監視装置の構成を示すブロック図である。

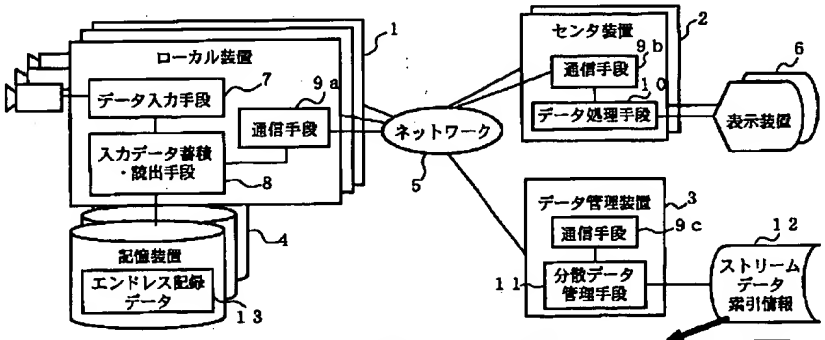
【図16】　従来の監視装置におけるストリームデータの記録方式を示す説明図である。

【図17】　従来の監視装置のストリームデータの記録方式におけるイベント記録管理テーブルを示す説明図である。

【符号の説明】

1　ローカル装置、2　センタ装置、3　データ管理装置（検索手段，補正値演算手段）、4　記憶装置、5　ネットワーク、9a，9b，9c　通信手段、11，22，42　分散データ管理手段（検索手段）、12，23，43　ストリームデータ索引情報、13　エンドレス記録データ（ストリームデータ）、20　イベント記録データ（ストリームデータ）、21，41　データ管理装置（検索手段）、32　退避データ蓄積・読出手段（退避保存手段，退避保存管理手段）、34　退避保存用記憶装置、71，72，73　時刻合致手段、81　時刻差測定手段。

【図1】



3：データ管理装置（検索手段）
11：分散データ管理手段（検索手段）
13：エンドレス記録データ（ストリームデータ）

入力デバイス		ローカル装置	符号化			エンドレス記録時間幅
ID	タイプ		方式	レート	サイズ	
dev1	cam	Loc1	MJPEG	30f/s	640x480	1, 800s
dev2	mic	Loc1	PCM	32kbps		3, 600s
dev3	cam	Loc2	MPEG2	30f/s	320x240	2, 400s
!	!	!	!	!	!	!

【図2】

(a)

入力デバイス		ローカル装置	符号化			エンドレス記録データ	
ID	タイプ		方式	レート	サイズ	開始	終了
dev5	cam	Loc3	MJPEG	30f/s	640x480	96. 12. 26 14:30:30	96. 12. 26 14:40:30
dev7	cam	Loc9	MJPEG	15f/s	320x240	96. 12. 26 14:35:50	96. 12. 26 14:40:30
dev10	cam	Loc17	MPEG2	30f/s	640x480	96. 12. 26 14:30:30	96. 12. 26 14:40:30
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

(b)

*検索文：全てのローカル装置におけるカメラに対し、
時刻96. 12. 26 14:30:30～96. 12. 26 14:40:30にエンドレス記録に存在するデータ
検索時刻：96. 12. 26 15:20:50

【図3】

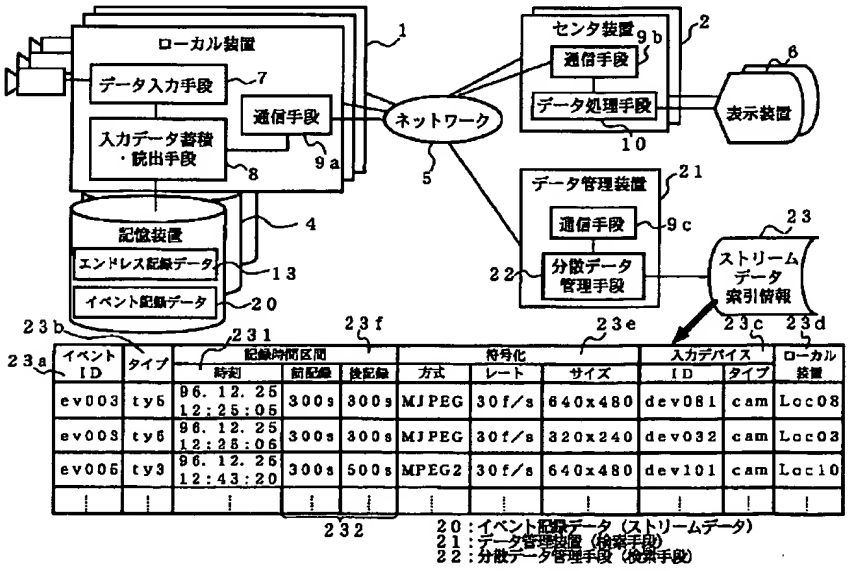
(a)

入力デバイス		ローカル装置	符号化			エンドレス記録データ		エンドレス記録時間幅
ID	タイプ		方式	レート	サイズ	開始	終了	
dev5	cam	Loc3	MJPEG	30f/s	640x480	96. 12. 26 14:30:50	96. 12. 26 14:40:30	3. 000s
dev7	cam	Loc9	MJPEG	15f/s	320x240	96. 12. 26 14:35:50	96. 12. 26 14:40:30	2. 700s
dev10	cam	Loc17	MPEG2	30f/s	640x480	96. 12. 26 14:30:30	96. 12. 26 14:40:30	3. 600s
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

(b)

*検索文：全てのローカル装置におけるカメラに対し、
時刻96. 12. 26 14:30:30～96. 12. 26 14:40:30にエンドレス記録に存在するデータ
検索時刻：96. 12. 26 15:20:50

【図4】



イベントID	タイプ	記録時間区間 時刻	前記録	後記録	符号化 方式	レート	サイズ	入力デバイス ID	タイプ	ローカル装置
ev003	ty5	96. 12. 25 12:25:05	300s	300s	MJPEG	30f/s	640x480	dev081	cam	Loc08
ev003	ty6	96. 12. 25 12:25:06	300s	300s	MJPEG	30f/s	320x240	dev032	cam	Loc03
ev005	ty3	96. 12. 26 12:43:20	300s	500s	MPEG2	30f/s	640x480	dev101	cam	Loc10
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

【図5】

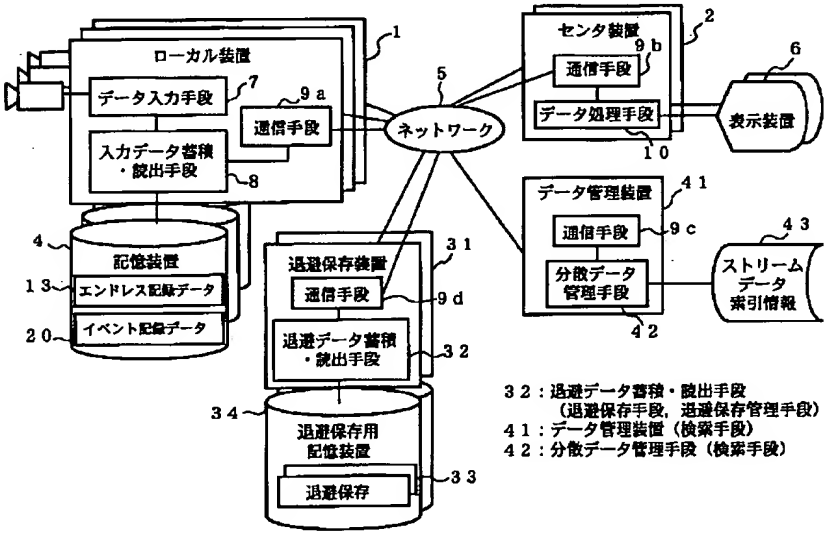
(a)

イベントID	タイプ	記録時間区間			符号化			入力デバイス		ローカル装置
		時刻	前記録	後記録	方式	レート	サイズ	ID	タイプ	
ev102	ty3	96. 12. 26 14:35:05	300s	300s	MJPEG	30f/s	640x480	dev081	cam	Loc08
ev103	ty3	96. 12. 26 14:35:05	300s	300s	MJPEG	30f/s	320x240	dev032	cam	Loc03
ev104	ty7	96. 12. 26 14:42:20	300s	500s	MPEG2	30f/s	640x480	dev101	cam	Loc10
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

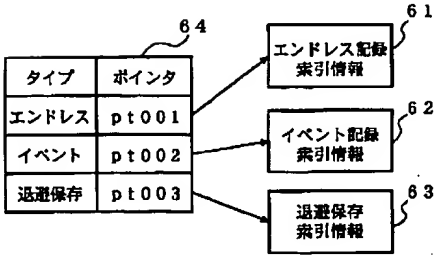
(b)

*検索文：全てのローカル装置におけるカメラに対し、
時刻96. 12. 26 14:30:30～96. 12. 26 14:40:30に存在するイベント記録データ

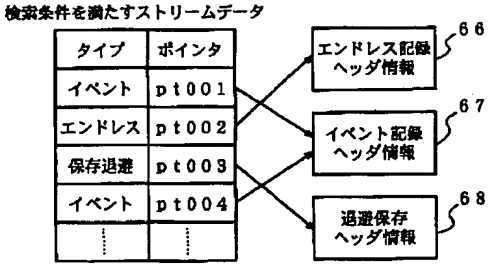
【図6】



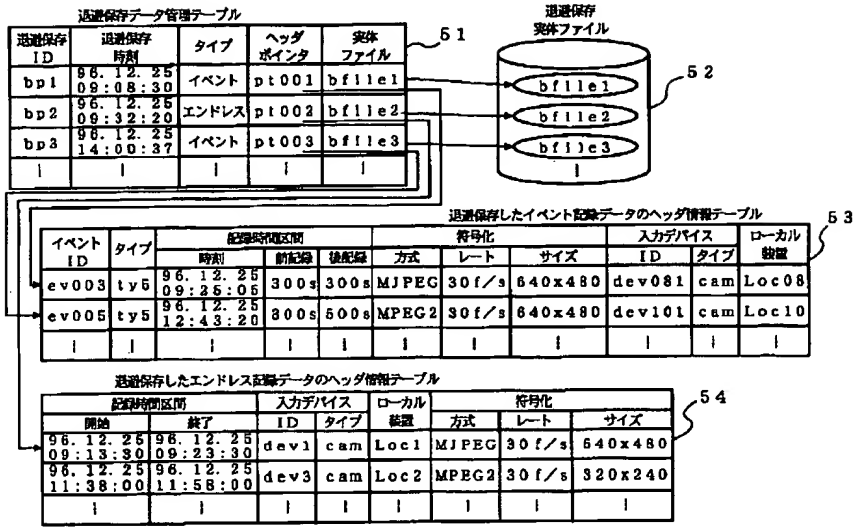
【図10】



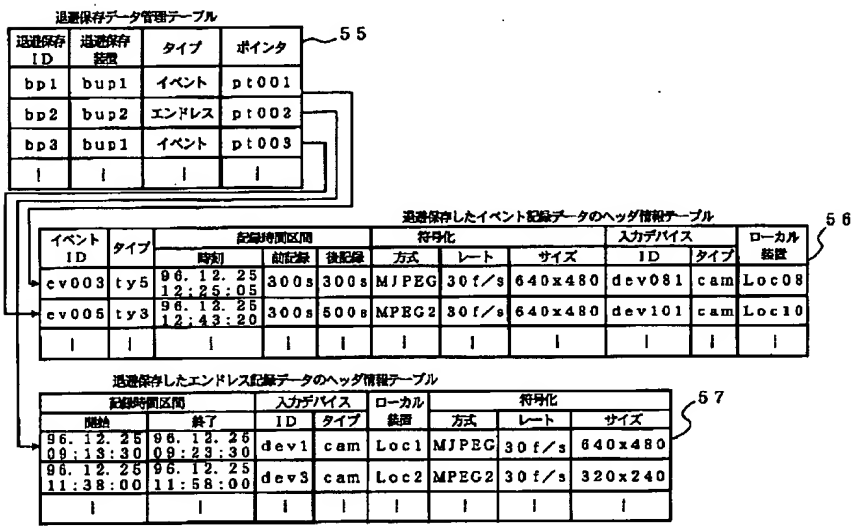
【図11】



【図7】



【図8】



【図14】

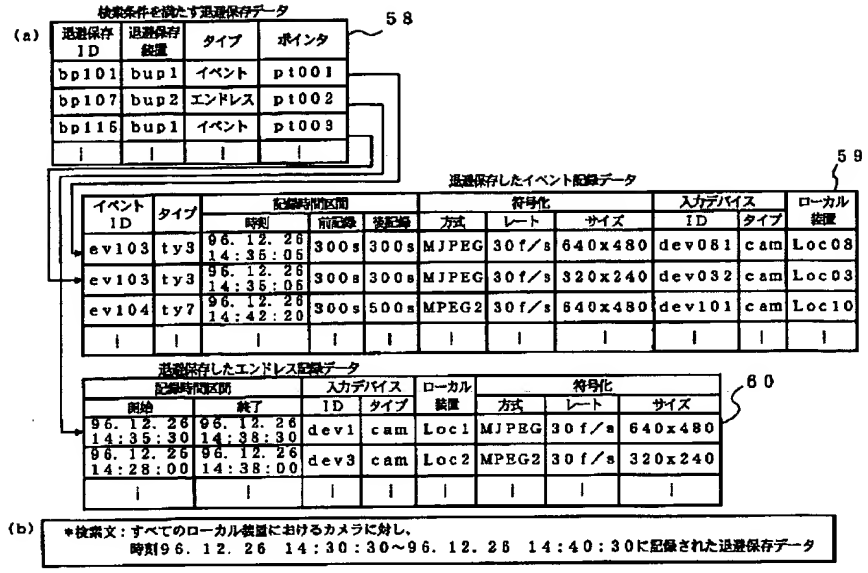
(a)

ローカル装置	時刻差
Loc1	ΔTL1
Loc2	ΔTL2
⋮	⋮

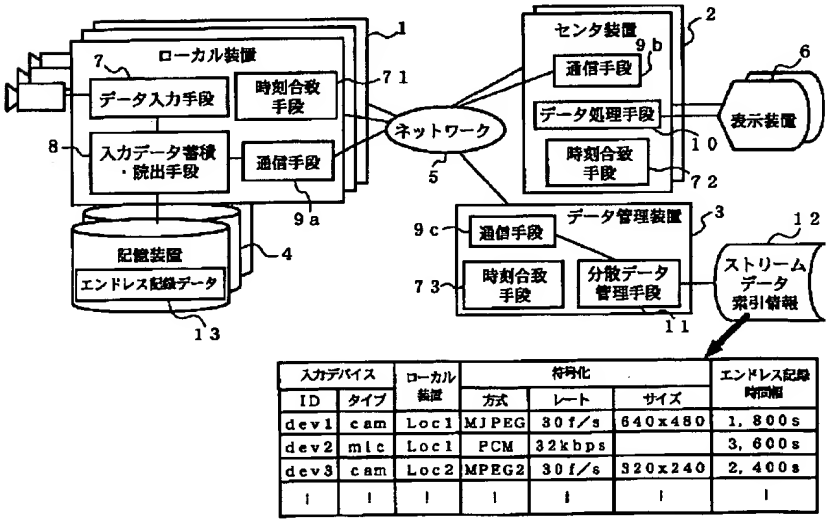
(b)

センタ装置	時刻差
cent1	ΔTC1
cent2	ΔTC2
⋮	⋮

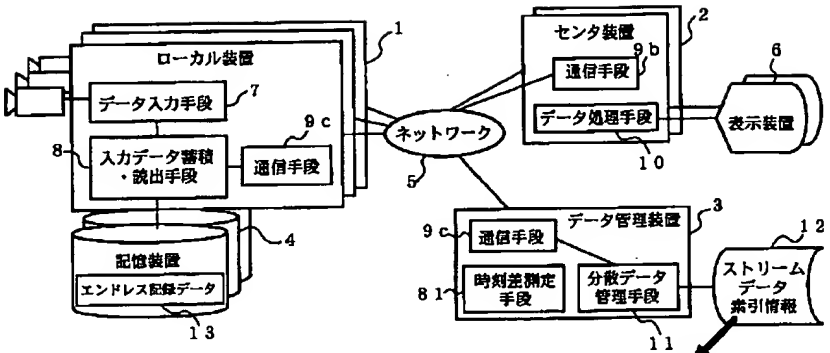
【図9】


(a)
検索条件を満たす退避保存データ
58
退避保存ID
退避保存装置
タイプ
ポインタ
bp101 bup1 イベント pt001
bp107 bup2 エンドレス pt002
bp115 bup1 イベント pt003
59
退避保存したイベント記録データ
イベントID
タイプ
記録時間区間
時刻
前記録
後記録
符号化
方式
レート
サイズ
入力デバイス
ID
タイプ
ローカル装置
ev103 ty3 96.12.26 14:35:05 300s 300s MJPEG 30f/s 640x480 dev081 cam Loc08
ev103 ty3 96.12.26 14:35:06 300s 300s MJPEG 30f/s 320x240 dev032 cam Loc03
ev104 ty7 96.12.26 14:42:20 300s 500s MPEG2 30f/s 640x480 dev101 cam Loc10
退避保存したエンドレス記録データ
60
記録時間区間
開始
終了
入力デバイス
ID
タイプ
ローカル装置
符号化
方式
レート
サイズ
96.12.26 14:35:30 96.12.26 14:38:30 dev1 cam Loc1 MJPEG 30f/s 640x480
96.12.26 14:28:00 96.12.26 14:38:00 dev3 cam Loc2 MPEG2 30f/s 320x240
(b)
*検索文：すべてのローカル装置におけるカメラに対し、
時刻96.12.26 14:30:30～96.12.26 14:40:30に記録された退避保存データ

【図12】


1
ローカル装置
7
データ入力手段
時刻合致手段
71
8
入力データ蓄積・読出手段
通信手段
9a
記憶装置
エンドレス記録データ
4
13
ネットワーク
5
センタ装置
2
9b
通信手段
データ処理手段
時刻合致手段
72
10
表示装置
6
データ管理装置
3
9c
通信手段
73
時刻合致手段
分散データ管理手段
11
12
ストリームデータ索引情報
入力デバイス
ID
タイプ
ローカル装置
符号化
方式
レート
サイズ
エンドレス記録時間幅
dev1 cam Loc1 MJPEG 30f/s 640x480 1,800s
dev2 mic Loc1 PCM 32kbps 3,600s
dev3 cam Loc2 MPEG2 30f/s 320x240 2,400s

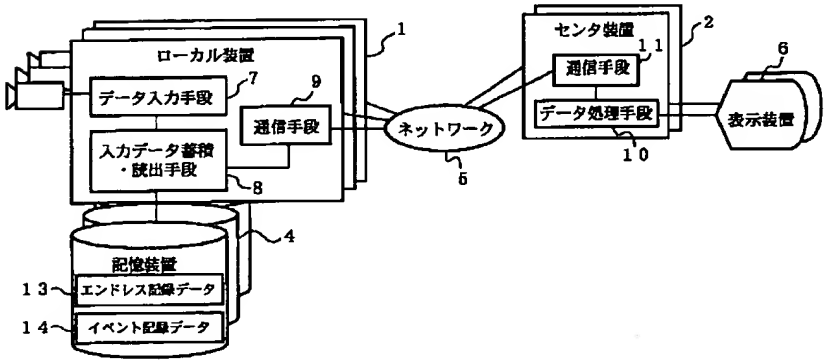
【図13】



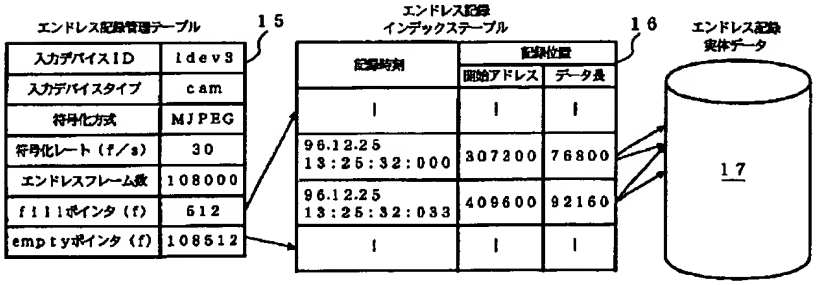
3：データ管理装置（補正値演算手段）

入力デバイス		ローカル装置	符号化			エンドレス記録時間幅
ID	タイプ		方式	レート	サイズ	
dev1	cam	Loc1	MJPEG	30f/s	640x480	1, 800s
dev2	mic	Loc1	PCM	32kbps		3, 600s
dev3	cam	Loc2	MPEG2	30f/s	320x240	2, 400s
｜	｜	｜	｜	｜	｜	｜

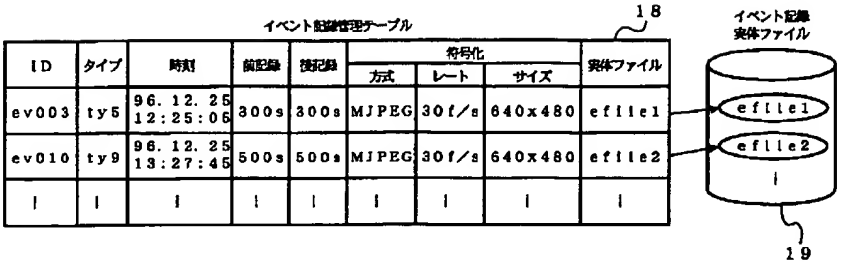
【図15】



【図16】



【図17】



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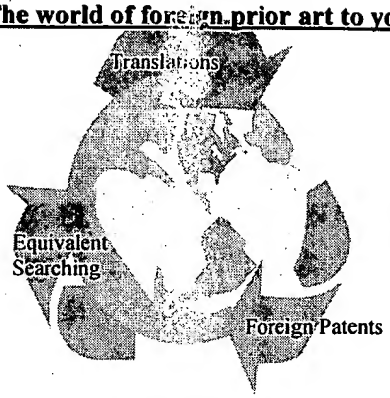

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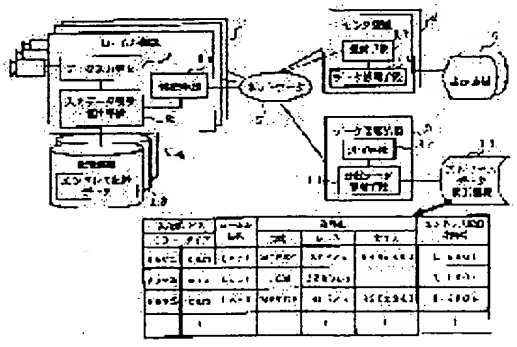
SATO KAZUYA

(54) **DATA GATHERING METHOD AND MONITOR DEVICE**

(57)Abstract:

PROBLEM TO BE SOLVED: To retrieve where recorded stream data are at a high speed and efficiently gather them, and to enable high-precision retrieval by obtaining stream data from media where stream data are recorded and gathering stream data to be monitored.
SOLUTION: A data input means 7 of a local device 1 inputs and digitizes video and sound data from a camera and a microphone for monitoring. The digitized data are encoded and recorded in a recording device 4 as temporally endless recording data 13 by an input data storing and reading means 8. Further, the recorded endless recording data 13 are read out by the input data storing and reading means 8 according to request from a center device 2 and transmitted to the center device 2. The endless recording data 13 received by the center device 2 are decoded by a data processing means 10 and displayed on a display means 6 or processing such as image recognition, etc., is performed.



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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] This invention relates to the acquisition method and supervisory equipment for transmitting the image and voice stream data from a surveillance camera, a microphone, etc. obtained by the local equipment distributed and arranged on a network through said network to the center equipment which performs a remote monitor, for example, performing monitor business in security, a plant operation control, facility facility management, etc.
[0002]
[Description of the Prior Art] Drawing 15 is the block diagram showing the configuration of the conventional supervisory equipment which connected in the network the local equipment which performs an image entry of data and are recording, and center equipment. drawing -- setting -- 1 -- local equipment and 2 -- center equipment and 5 -- a network and 6 -- for input data are recording and a read-out means, and 9, as for a data-processing means and 13, means of communications and 10 are [an indicating equipment and 7 / a data input means and 8 / endless record data and 14] event record data.
[0003] Next, actuation is explained. After the data input means 7 inputs and digitizes the image and voice data from a camera or a microphone with this local equipment 1, An image MJPEG (Motion Joint Photographic Coding Experts Group) and MPEG (Motion Picture Experts Group), Voice is encoded by PCM (Pulse Codo Modulation), ADPCM (Adaptive Differential Pulse Code Modulation), etc. While input data are recording and the read-out means 8 record the coded data on storage, such as a hard disk, as stream data [****] in time, said recorded stream data is read according to the demand from center equipment. The stream data by which reading appearance was carried out is transmitted to center equipment 2 by means of communications 9 through a network 5, and the means of communications 11 of center equipment 2 receives said stream data. The stream data received in center equipment 2 is decoded with the data-processing means 10, it is displayed on a display 6 or processing of image recognition etc. is performed.
[0004] thus -- although stream data is recorded with local equipment 1 and it is transmitted to center equipment 2 if needed -- data, such as an image and voice, -- measurement data etc. and a ratio -- since the amount of BEDETA becomes huge, with input data are recording and the read-out means 8, it divides roughly and two kinds of data is recorded. Drawing 16 and drawing 17 are explanatory drawings for explaining this recording method, and, for an endless recording table and 16, as for endless record substance data and 18, an endless record index table and 17 are [15 / an event recording table and 19] event record substance files in drawing. Endless record records the newest input data of a certain fixed time amount on endless, and overwrites the newest data in order [data / old] in ring buffer format. Although chart-lasting-time width of face is comparatively short to endless record, there is also timelapse record which carries out long duration record at the gap which 1 frames-per-second degree thinned out in addition to what is recorded by the high frame rate which is 30 frames-per-second degree among them.
[0005] Moreover, as for ejection and the endless record data 13, the event record data 14 stores independently the data before and behind event generating time of day from the endless record data 13 or the data into which it is inputted from the data input means 7, when input data are recording and the read-out means 8 receive the event alert from the sensing equipment which is not illustrated. Although event record also has a limit of the number and sequential elimination is carried out from an old thing or the low thing of priority, rear-spring-supporter record of the important data is carried out from endless record of a high frame rate at a long time.

[0006] When requiring the stream data recorded from center equipment 2, the time amount section from five quotas to current time called 1996.12.25.13:20:00 to 1996.12.25.13:25:00 can be specified, or the identification number (ID) and event classification of an event can be specified and searched.
[0007]
[Problem(s) to be Solved by the Invention] Since a conventional acquisition method and supervisory equipment are constituted as mentioned above When [which is related with the stream data which specified the time amount section] it asks, for example, endless chart-lasting-time width of face differs with each local equipment 1 As opposed to inquiry what kind of stream data exists in the assignment time amount section in full-local equipment 1 For the whereabouts check of said stream data, center equipment 2 had to be asked to all the corresponding local equipments 1, and when much local equipments were connected, it had the technical problem to which retrieval speed becomes slow each time.
[0008] While it was made in order that this invention might solve the above technical problems, and searching the whereabouts of the stream data currently recorded at a high speed and being able to collect efficiently, also when the difference has arisen on the network at the time of day managed, it aims at obtaining the acquisition method and supervisory equipment which can perform high retrieval of precision.
[0009]
[Means for Solving the Problem] A acquisition method concerning invention according to claim 1 Stream data obtained about a candidate for a monitor is memorized to media of storage capacity restricted on a network according to a storage process. Stream data index information about the whereabouts of said stream data currently recorded on said media by said storage process is intensively managed on said network according to a management process. Retrieve said said stream data index information managed intensively based on retrieval conditions, and a retrieval result about the whereabouts of stream data is obtained in a retrieval process. Based on a retrieval result by said retrieval process, the whereabouts of stream data which satisfies said retrieval conditions is acquired according to a stream data whereabouts acquisition process. Based on the whereabouts of stream data which satisfies said retrieval conditions acquired according to said stream data whereabouts acquisition process A stream data acquisition process acquires said stream data from said media which recorded the stream data concerned, and stream data about said candidate for a monitor is collected.
[0010] A acquisition method concerning invention according to claim 2 A storage process which records stream data which was obtained about a candidate for a monitor, and which is continuing in time by using media of limited storage capacity for endless on said media distributed on a network, A management process in which management about the whereabouts of said stream data is performed based on stream data index information containing chart-lasting-time width of face according to storage capacity of said media at the time of said stream data being endlessly recorded on said media distributed on said network, A retrieval process in which the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information containing said chart-lasting-time width of face is searched, It has said stream data whereabouts acquisition process which acquires a retrieval result about the whereabouts of said stream data which satisfies retrieval conditions containing said time of day.
[0011] A acquisition method concerning invention according to claim 3 A storage process which carries out event record of the stream data obtained about a candidate for a monitor at media of limited storage capacity distributed on a network, A management process in which management about the whereabouts of said stream data is performed based on stream data index information which includes the section about event generating time of day and chart lasting time at the time of event record of said stream data being carried out in said media distributed on said network, A retrieval process in which the whereabouts of stream data by which event record was carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information is searched, It has a stream data whereabouts acquisition process which acquires a retrieval result about the whereabouts of stream data by which event record was carried out which satisfies retrieval conditions containing said time of day.
[0012] A management process is made to perform management about the whereabouts of event record stream data based on stream data index information which contains chart-lasting-time width of face before and behind event generating time of day at the time of event record of the stream data being carried out, and the event generating time of day concerned in media which distributed a acquisition method concerning invention according to claim 4 on a network.
[0013] A acquisition method concerning invention according to claim 5 By using media of limited storage capacity for

endless, were recorded on said media distributed on a network according to a storage process. About a candidate for a monitor, an evacuation conservation process re-records obtained stream data which is continuing in time on media for evacuation conservation, and evacuation conservation is carried out. Header information which described the attribute of said stream data including the chart-lasting-time section at the time of recording said said re-recorded stream data on said media of the stream data concerned endlessly, An evacuation conservation management process manages by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information including the chart-lasting-time section at the time of said said re-recorded stream data being endlessly recorded on said media A management process performs management about the whereabouts of said said stream data currently re-recorded. A retrieval process searches the whereabouts about said media for evacuation conservation which are re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information including said chart-lasting-time section. A retrieval result with which are satisfied of said retrieval conditions is acquired in a stream data whereabouts acquisition process, and stream data with which it is satisfied of said retrieval conditions from said media for evacuation conservation is collected based on said acquired retrieval result.

[0014] A acquisition method concerning invention according to claim 6 Stream data obtained about a candidate for a monitor by which event record was carried out by media distributed on a network according to a storage process to media for evacuation conservation An evacuation conservation process which records and carries out evacuation conservation, [re-] Header information which described the attribute of stream data containing event generating time of day and chart-lasting-time width of face at the time of carrying out event record of said said re-recorded stream data at said media of the stream data concerned, It has an evacuation conservation management process managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information containing event generating time of day and chart-lasting-time width of face at the time of event record of said said re-recorded stream data being carried out at said media A management process performs management about the whereabouts of said said stream data currently re-recorded. A retrieval process searches the whereabouts about said media for evacuation conservation which are re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information. A stream data whereabouts acquisition process acquires a retrieval result about said media for evacuation conservation which are re-recording said stream data with which are satisfied of said retrieval conditions. Based on said acquired retrieval result, stream data based on event record with which it is satisfied of said retrieval conditions from said media for evacuation conservation is collected.

[0015] A acquisition method concerning invention according to claim 7 The whereabouts of stream data currently recorded on media which were equipped with a time-of-day unification process for unifying time of day on a network, and were distributed on a network It manages using stream data index information based on time of day which a management process unification-ized in said time-of-day unification process. A retrieval process searches the whereabouts of stream data to said stream data index information based on retrieval conditions including assignment by said unification-ized time of day. A retrieval result about the whereabouts of stream data which satisfies said retrieval conditions is acquired in said stream data whereabouts acquisition process.

[0016] A acquisition method concerning invention according to claim 8 Deliver and receive current time information about time of day currently used in processing of stream data performed by distributing on a network on said network. A time-of-day difference measurement process which measures a time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information, Correction value about time of day currently used by processing of said stream data Based on said said measured time-of-day difference, it has a correction value operation process which delivered and received said current time information on said network, while is set and searched for. Correction value calculated in said correction value operation process while a management process managed the whereabouts of said stream data based on stream data index information on stream data currently recorded on media distributed on said network is managed. Time of day specified as retrieval conditions and time of day in a retrieval result are amended to said stream data index information based on said correction value managed in said management process. A retrieval process searches the whereabouts of stream data which satisfies said retrieval conditions. A stream data whereabouts acquisition process acquires a retrieval result of said stream data index

information about the whereabouts of stream data amended when retrieval was performed in said retrieval process. Stream data is acquired from said media in a stream data acquisition process based on said acquired retrieval result.
[0017] A acquisition method concerning invention according to claim 9 Based on a retrieval result of amended stream data index information which was acquired in a stream data whereabouts acquisition process Time difference between media produced between said media at the time of acquiring said stream data from media which recorded stream data with which are satisfied of retrieval conditions is got to know. A stream data acquisition process acquires the stream data concerned from said media which recorded stream data with which are satisfied of retrieval conditions amended based on time difference between the media concerned.
[0018] A acquisition method concerning invention according to claim 10 Said stream data which was equipped with a time-of-day unification process for unifying time of day on a network, and was re-recorded in an evacuation conservation process It manages based on time of day unified in said time-of-day unification process according to an evacuation conservation management process. The whereabouts of stream data currently re-recorded on media for evacuation conservation is managed in a management process using stream data index information based on time of day unification-ized in said time-of-day unification process. The whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions including assignment by said unification-ized time of day is searched with a retrieval process about media for evacuation conservation to said stream data index information. A stream data whereabouts acquisition process acquires a retrieval result about the whereabouts of stream data which satisfies retrieval conditions including assignment by said unification-ized time of day.
[0019] A acquisition method concerning invention according to claim 11 Deliver and receive current time information about time of day currently used in processing of stream data performed by distributing on a network on said network. A time-of-day difference measurement process which measures a time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information, Correction value about time of day currently used by processing of said stream data Based on said said measured time-of-day difference, it has a correction value operation process which delivered and received said current time information on said network, while is set and searched for. Correction value calculated in said correction value operation process while a management process managed the whereabouts of said stream data based on stream data index information on stream data currently re-recorded on media for evacuation conservation is managed. Time of day specified as said stream data index information as a pair necropsy wire rope affair and time of day in a retrieval result are amended based on said correction value managed in said management process. The whereabouts about said media for evacuation conservation of stream data with which are satisfied of said retrieval conditions is searched in a retrieval process. A retrieval result of said stream data index information about the whereabouts of said amended stream data is acquired in a stream data whereabouts acquisition process. Based on said acquired retrieval result, stream data with which are satisfied of said retrieval conditions is acquired from said media for evacuation conservation in a stream data acquisition process.
[0020] In a correction value operation process, correction value is calculated based on a time-of-day difference including a transmission-time difference by transmission time taken for a acquisition method concerning invention according to claim 12 to deliver and receive current time information.
[0021] A acquisition method concerning invention according to claim 13 A stream data acquisition process based on a retrieval result of amended stream data index information which was acquired in a stream data whereabouts acquisition process Time difference between media produced between said media for evacuation conservation at the time of acquiring said stream data from media for evacuation conservation which recorded stream data with which are satisfied of retrieval conditions is got to know. The stream data concerned is acquired from said media for evacuation conservation which recorded stream data with which it is satisfied of retrieval conditions based on time difference between the media concerned.
[0022] A acquisition method concerning invention according to claim 14 Chart-lasting-time width of face of stream data currently endlessly recorded on media distributed on a network, The whereabouts of said stream data is managed in a management process based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. A retrieval process searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. A stream data whereabouts acquisition process acquires a retrieval result of said stream data index information that said retrieval conditions are satisfied.
[0023] A retrieval process searches the whereabouts of stream data which satisfies the retrieval conditions concerned

based on retrieval conditions and current time containing time of day and time width of face which specify stream data to stream data index information, and the acquisition method concerning invention according to claim 15 acquires the retrieval result about the whereabouts of stream data containing recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions in a stream data whereabouts acquisition process.
[0024] A acquisition method concerning invention according to claim 16 acquires a retrieval result about the whereabouts of stream data containing endless chart-lasting-time width of face of media which recorded stream data with which are satisfied of recording start time of day, record end time, and said retrieval conditions of stream data with which are satisfied of retrieval conditions in a stream data whereabouts acquisition process.
[0025] A acquisition method concerning invention according to claim 17 Chart-lasting-time width of face of stream data by which endless record is carried out at media distributed on a network, The whereabouts of said stream data is managed in a management process based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. As opposed to said stream data index information A generating means of said stream data, The whereabouts of stream data which satisfies the retrieval conditions concerned by making data-processing format of said stream data etc. into retrieval conditions is searched with a retrieval process. A retrieval result of said stream data index information that said retrieval conditions are satisfied is acquired in a stream data whereabouts acquisition process.
[0026] A acquisition method concerning invention according to claim 18 Chart-lasting-time width of face before and behind event generating time of day for every media which carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. is managed in a management process. The whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day is searched with a retrieval process to said stream data index information. A retrieval result about the whereabouts of stream data by which event record is carried out which satisfies said retrieval conditions is acquired in a stream data whereabouts acquisition process.
[0027] A acquisition method concerning invention according to claim 19 The whereabouts of stream data by which event record is carried out is referred to a pair necropsy funiculus process to stream data index information based on retrieval conditions including the time amount section of said event record. A retrieval result about the whereabouts of stream data with which all or a part of event chart lasting time is contained at said time amount section of event record in said retrieval conditions and by which event record is carried out is acquired in a stream data whereabouts acquisition process.
[0028] A acquisition method concerning invention according to claim 20 Chart-lasting-time width of face before and behind event generating time of day for every media which carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. is managed in a management process. Information about the event itself, such as said event identifier, said type, etc., The whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions, such as a generating means of said stream data and data-processing format of said stream data, is searched with a retrieval process. A retrieval result about the whereabouts of stream data by which event record is carried out which satisfies said retrieval conditions is acquired in a stream data whereabouts acquisition process. Based on the whereabouts of stream data which satisfies said retrieval conditions acquired according to said tree MUDETA whereabouts acquisition process, a stream data acquisition process collects stream data from said media.
[0029] A acquisition method concerning invention according to claim 21 A generating means of stream data based on endless record, data-processing format of said stream data, Header information including the chart-lasting-time section of a terminal with which a type and said stream data were obtained, and said stream data currently re-recorded on media for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on endless record re-recorded on media for evacuation conservation, Based on stream data index information by difference in distinction information on media for evacuation

conservation and said endless record of said stream data, or event record etc. The whereabouts about said media for evacuation conservation of stream data based on said endless record is managed in a management process. The whereabouts about said media for evacuation conservation of said stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day is searched with a retrieval process to said stream data index information. A retrieval result about the whereabouts about said media for evacuation conservation of said stream data with which are satisfied of said retrieval conditions is acquired in a stream data whereabouts acquisition process.

[0030] A acquisition method concerning invention according to claim 22 The whereabouts about media for evacuation conservation of said stream data which satisfy the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data by which endless record was carried out is searched with a retrieval process to stream data index information. The whereabouts about said media for evacuation conservation of stream data is acquired in a stream data whereabouts acquisition process based on recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions.

[0031] A acquisition method concerning invention according to claim 23 A generating means of stream data based on endless record, data-processing format of said stream data, Header information including the chart-lasting-time section of a terminal with which said stream data was obtained, and said stream data currently re-recorded on media for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on endless record re-recorded on media for evacuation conservation, Based on stream data index information by a type in which a difference in distinction information on media for evacuation conservation and said endless record of said stream data, or event record is shown The whereabouts about said media for evacuation conservation of said stream data is managed in a management process. As opposed to said stream data index information A generating means of said stream data, The whereabouts about media for evacuation conservation of stream data which satisfy the retrieval conditions concerned by making into retrieval conditions data-processing format of said stream data, a terminal with which said stream data was obtained is searched with a retrieval process. A retrieval result by said retrieval process is acquired in a stream data whereabouts acquisition process, and stream data with which are satisfied of said retrieval conditions is collected from said media for evacuation conservation.

[0032] A acquisition method concerning invention according to claim 24 An evacuation conservation identifier to stream data based on event record re-recorded on media for evacuation conservation, distinction information on media for evacuation conservation, and a class of said stream data -- and The whereabouts about said media for evacuation conservation of stream data based on said event record is managed in a management process based on stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on media for evacuation conservation etc. The whereabouts about said media for evacuation conservation of stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day is searched with a retrieval process to said stream data index information. The whereabouts about said media for evacuation conservation of stream data with which are satisfied of said retrieval conditions is acquired in a stream data whereabouts acquisition process.

[0033] A acquisition method concerning invention according to claim 25 The whereabouts about media for evacuation conservation of stream data which satisfy the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data is searched with a retrieval process to stream data index information. The whereabouts of stream data is acquired about media for evacuation conservation in a stream data whereabouts acquisition process based on recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions.

[0034] A acquisition method concerning invention according to claim 26 A generating means of stream data based on event record, data-processing format of said stream data, As opposed to header information including the chart-lasting-time section of a terminal with which an event identifier, a type, and said stream data were obtained, and said stream data currently re-recorded on media for evacuation conservation A generating means of said stream data, data-processing format of said stream data, The whereabouts about media for evacuation conservation of said stream data which satisfy the retrieval conditions concerned by making into retrieval conditions a terminal with which an event identifier, a type, or said stream data was obtained is searched with a retrieval process. The whereabouts about media for evacuation conservation of said stream data which satisfy said retrieval conditions is acquired in a stream data

whereabouts acquisition process. Based on the whereabouts of said stream data which satisfies said acquired retrieval conditions, stream data is collected from media for evacuation conservation.
[0035] Local equipment which distributed supervisory equipment concerning invention according to claim 27 on said network which records stream data obtained about a candidate for a monitor on storage of storage capacity with which it was restricted on a network, and has been arranged, Data control equipment which manages intensively stream data index information about the whereabouts of said stream data currently recorded on said storage on said network, A retrieval means to retrieve said stream data index information managed intensively based on retrieval conditions, Center equipment which obtains said stream data from said storage, and collects stream data about said candidate for a monitor based on the whereabouts of said stream data acquired by retrieval result by this retrieval means, It has means of communications for transmitting and receiving various information, such as said stream data, on said network.
[0036] Supervisory equipment concerning invention according to claim 28 is using storage of limited storage capacity for endless. Local equipment records stream data which was obtained about a candidate for a monitor and which is continuing in time on said storage on a network. Data control equipment performs management about the whereabouts of said stream data based on stream data index information containing chart-lasting-time width of face according to storage capacity of said storage at the time of said stream data being endlessly recorded on said storage on said network. A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information containing said chart-lasting-time width of face. Based on the whereabouts of said stream data acquired from a retrieval result obtained by said retrieval means, said stream data is obtained from said storage, and said center equipment collects stream data about said candidate for a monitor.
[0037] Supervisory equipment concerning invention according to claim 29 stream data obtained about a candidate for a monitor Local equipment carries out event record at storage of storage capacity with which it was restricted on a network. Data control equipment performs management about the whereabouts of said stream data based on stream data index information which includes the section about event generating time of day and chart lasting time at the time of event record of said stream data being carried out in said storage on said network. A retrieval means searches the whereabouts of stream data by which event record was carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Based on a retrieval result about the whereabouts of stream data by which event record was carried out which satisfies retrieval conditions containing said time of day Said stream data is obtained from said storage which recorded the stream data concerned, and center equipment collects stream data about said candidate for a monitor.
[0038] Data control equipment is made to perform said management about the whereabouts of stream data by which event record was carried out based on stream data index information that supervisory equipment concerning invention according to claim 30 contains chart-lasting-time width of face before and behind event generating time of day at the time of event record of the stream data being carried out, and the event generating time of day concerned in storage on a network.
[0039] Were recorded on the storage concerned because supervisory equipment concerning invention according to claim 31 uses storage of limited storage capacity for endless. Stream data which was obtained about a candidate for a monitor and which is continuing in time to storage for evacuation conservation An evacuation conservation means which records and carries out evacuation conservation, [re-] Header information which described the attribute of the stream data concerned for said said re-recorded stream data, It has an evacuation conservation management tool managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information including the chart-lasting-time section at the time of said said re-recorded stream data being endlessly recorded on said storage Data control equipment performs management about the whereabouts of said said stream data currently re-recorded. A retrieval means searches the whereabouts about said storage for evacuation conservation which is re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information including said chart-lasting-time section. Based on a retrieval result by said retrieval means, center equipment collects stream data from said storage for evacuation conservation.
[0040] Supervisory equipment concerning invention according to claim 32 to storage stream data by which event record was carried out and which was obtained about a candidate for a monitor to storage for evacuation conservation

An evacuation conservation means which records and carries out evacuation conservation, [re-] Header information which described the attribute of the stream data concerned for said said re-recorded stream data, It has an evacuation conservation management tool managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information containing event generating time of day and chart-lasting-time width of face at the time of event record of said said re-recorded stream data being carried out at said storage Data control equipment performs management about the whereabouts of said said stream data currently re-recorded. A retrieval means searches the whereabouts about said storage for evacuation conservation which is re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information. Based on a retrieval result with which are satisfied of said retrieval conditions, center equipment collects stream data based on event record from said storage for evacuation conservation.

[0041] Supervisory equipment concerning invention according to claim 33 is equipped with a time-of-day agreement means for unifying time of day on a network. The whereabouts of stream data currently recorded on storage on said network Data control equipment manages using stream data index information based on time of day unification-ized with said time-of-day agreement means. A retrieval means searches the whereabouts of stream data which satisfies said retrieval conditions to said stream data index information based on retrieval conditions including assignment by said unification-ized time of day. Center equipment acquires a retrieval result about the whereabouts of stream data which satisfies retrieval conditions including assignment by said unification-ized time of day.

[0042] Supervisory equipment concerning invention according to claim 34 delivers and receives current time information about time of day currently used in processing of stream data performed on a network on said network. A time-of-day difference measurement means to measure a time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information, Correction value about time of day currently used by processing of said stream data Based on said time-of-day difference measured with said time-of-day difference measurement means, it has a correction value operation means which delivered and received said current time information on said network, while is set and searched for. Based on stream data index information on stream data currently recorded on storage on said network Correction value which said correction value operation means calculated while data control equipment managed the whereabouts of said stream data is managed. Time of day specified as retrieval conditions and time of day in a retrieval result are amended to said stream data index information based on said correction value which said data control equipment has managed. A retrieval means searches the whereabouts of stream data which satisfies said retrieval conditions. Center equipment collects stream data from said storage based on a retrieval result of said stream data index information about the whereabouts of stream data amended when retrieval was performed by said retrieval means.

[0043] Supervisory equipment concerning invention according to claim 35 based on a retrieval result of amended stream data index information which center equipment acquired The center equipment concerned gets to know time difference between media produced between said storage at the time of acquiring said stream data from storage which recorded stream data with which are satisfied of retrieval conditions. The stream data concerned is acquired and collected from said storage which recorded stream data with which are satisfied of retrieval conditions amended based on time difference between the media concerned.

[0044] Supervisory equipment concerning invention according to claim 36 is equipped with a time-of-day agreement means for unifying time of day on a network. An evacuation conservation management tool manages stream data re-recorded with an evacuation conservation means based on time of day unified with said time-of-day agreement means. Data control equipment manages using stream data index information based on time of day which unification-ized the whereabouts of stream data currently re-recorded on storage for evacuation conservation with said time-of-day agreement means. A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions including assignment by said unification-ized time of day about storage for evacuation conservation to said stream data index information. A retrieval result about the whereabouts of stream data which satisfies retrieval conditions including assignment by said unification-ized time of day is acquired, center equipment acquires the stream data concerned from storage for evacuation conservation, and it is collected.

[0045] Supervisory equipment concerning invention according to claim 37 delivers and receives current time information about time of day currently used in processing of stream data performed by distributing on a network on

said network. A time-of-day difference measurement means to measure a time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information, Correction value about time of day currently used by processing of said stream data Based on said time-of-day difference measured with said time-of-day difference measurement means, it has a correction value operation means which delivered and received said current time information on said network, while is set and searched for. Based on stream data index information on stream data currently re-recorded on storage for evacuation conservation Correction value calculated with said correction value operation means while data control equipment managed the whereabouts of said stream data is managed. Time of day specified as retrieval conditions and time of day in a retrieval result are amended to said stream data index information based on said correction value managed with said data control equipment. A retrieval means searches the whereabouts about said storage for evacuation conservation of stream data with which are satisfied of said retrieval conditions. Based on a retrieval result of said stream data index information about the whereabouts of said stream data amended when retrieval was performed by said retrieval means, center equipment collects stream data from said storage for evacuation conservation.

[0046] A correction value operation means calculates correction value based on a time-of-day difference of said current time information including a transmission-time difference by transmission time taken for supervisory equipment concerning invention according to claim 38 to deliver and receive current time information delivered and received.

[0047] Supervisory equipment concerning invention according to claim 39 based on a retrieval result of amended stream data index information which center equipment acquired The center equipment concerned gets to know time difference between media produced between said storage for evacuation conservation at the time of acquiring said stream data from storage for evacuation conservation which recorded stream data with which are satisfied of retrieval conditions. The stream data concerned is acquired from said storage for evacuation conservation which recorded stream data with which are satisfied of retrieval conditions amended based on time difference between the media concerned.

[0048] Chart-lasting-time width of face of stream data with which supervisory equipment concerning invention according to claim 40 is endlessly recorded on storage on a network, Data control equipment manages the whereabouts of each of said stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Center equipment acquires stream data with which are satisfied of said retrieval conditions from said storage based on a retrieval result of said stream data index information that said retrieval conditions are satisfied.

[0049] Supervisory equipment concerning invention according to claim 41 receives stream data index information. A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions and current time containing time of day and time width of face which specify stream data. Based on a retrieval result about the whereabouts of stream data containing recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions, center equipment acquires stream data with which are satisfied of said retrieval conditions from storage.

[0050] Center equipment acquires stream data with which are satisfied of said retrieval conditions from said storage based on a retrieval result about the whereabouts of stream data containing endless chart-lasting-time width of face of storage with which supervisory equipment concerning invention according to claim 42 recorded stream data with which are satisfied of recording start time of day, record end time, and said retrieval conditions of stream data with which are satisfied of retrieval conditions.

[0051] Chart-lasting-time width of face of stream data with which endless record of the supervisory equipment concerning invention according to claim 43 is carried out at storage on a network, Data control equipment manages the whereabouts of each of said stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. As opposed to said stream data index information A generating means of said stream data, A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned by making data-processing format of said stream data etc. into retrieval conditions. Based on a retrieval result of said stream data index information that said retrieval conditions are satisfied, center equipment acquires stream data with which are satisfied of said retrieval conditions from said storage.

[0052] Chart-lasting-time width of face before and behind event generating time of day for every storage when supervisory equipment concerning invention according to claim 44 carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event

itself, such as an event identifier and a type, and said event record, Data control equipment manages the whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. A retrieval means searches the whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Based on a retrieval result about the whereabouts of stream data by which event record is carried out which satisfies said retrieval conditions, center equipment collects stream data from said storage.

[0053] A retrieval means carries out a pair necropsy funiculus to stream data index information based on retrieval conditions which include the time amount section of said event record for the whereabouts of stream data with which event record of the supervisory equipment concerning invention according to claim 45 is carried out. Center equipment acquires a retrieval result about the whereabouts of stream data with which all or a part of event chart lasting time is contained at said time amount section of event record in said retrieval conditions and by which event record is carried out. Stream data is acquired from storage based on said acquired retrieval result.

[0054] Chart-lasting-time width of face before and behind event generating time of day for every storage when supervisory equipment concerning invention according to claim 46 carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, Data control equipment manages the whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. Information about the event itself, such as said event identifier, said type, etc., A retrieval means searches the whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data. Center equipment acquires a retrieval result about the whereabouts of stream data by which event record is carried out which satisfies said retrieval conditions, acquires said stream data from said storage based on the acquired retrieval result concerned, and collects it.

[0055] A generating means of stream data according [supervisory equipment concerning invention according to claim 47] to endless record, Data-processing format of said stream data, a type, local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on storage for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on endless record re-recorded on media for evacuation conservation, Based on stream data index information by difference in distinction information on media for evacuation conservation and said endless record of said stream data, or event record etc. Data control equipment manages the whereabouts about said storage for evacuation conservation of stream data based on said endless record. A retrieval means searches the whereabouts about said storage for evacuation conservation of said stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Center equipment acquires a retrieval result about the whereabouts about said storage for evacuation conservation of said stream data with which are satisfied of said retrieval conditions.

[0056] Supervisory equipment concerning invention according to claim 48 receives stream data index information. A retrieval means searches the whereabouts about storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data by which endless record was carried out. Center equipment acquires the whereabouts about said storage for evacuation conservation of stream data based on recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions.

[0057] A generating means of stream data according [supervisory equipment concerning invention according to claim 49] to endless record, Data-processing format of said stream data, local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on storage for evacuation conservation, And a conservation evacuation identifier to stream data based on endless record re-recorded on a reference pointer and storage for evacuation conservation which specify the header information concerned, Based on stream data index information by a type in which a difference in distinction information on storage for evacuation conservation and said endless record of said stream data, or event record is shown Data control equipment manages the whereabouts about said storage for evacuation conservation of said stream data. As opposed to said stream data index information A generating means of said stream data, A retrieval means searches the whereabouts

about storage for evacuation conservation of stream data which satisfies the retrieval conditions concerned by making into retrieval conditions local equipment with which data-processing format of said stream data and said stream data were obtained. Center equipment acquires a retrieval result about storage for evacuation conservation of said stream data with which are satisfied of said retrieval conditions, and collects stream data with which are satisfied of said acquired retrieval conditions from storage for evacuation conservation.
[0058] An evacuation conservation identifier to stream data based on event record to which supervisory equipment concerning invention according to claim 50 was re-recorded on storage for evacuation conservation, distinction information on storage for evacuation conservation, and a class of said stream data -- and Data control equipment manages the whereabouts about said storage for evacuation conservation of stream data based on said event record based on stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on storage for evacuation conservation etc. A retrieval means searches the whereabouts about said storage for evacuation conservation of stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Based on the whereabouts about said storage for evacuation conservation of stream data with which are satisfied of said acquired retrieval conditions, center equipment acquires the stream data concerned from storage for evacuation conservation, and collects it.
[0059] A retrieval means searches the whereabouts about the storage of stream data for evacuation conservation which satisfies the retrieval conditions concerned based on retrieval conditions and current time when supervisory equipment concerning invention according to claim 51 includes the time-amount section which specifies stream data to stream data index information, and center equipment acquires the whereabouts of stream data about the storage for evacuation conservation based on the recording start time of day and the record end time of stream data with which are satisfied of said retrieval conditions.
[0060] A generating means of stream data according [supervisory equipment concerning invention according to claim 52] to event record, Data-processing format of said stream data, an event identifier, a type, As opposed to header information including the chart-lasting-time section of said stream data currently re-recorded on local equipment with which said stream data was obtained, and storage for evacuation conservation A generating means of said stream data, data-processing format of said stream data, A retrieval means searches the whereabouts about storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned by making into retrieval conditions local equipment with which an event identifier, a type, or said stream data was obtained. Center equipment acquires the whereabouts about storage for evacuation conservation of said stream data which satisfies said retrieval conditions from said retrieval result, and collects stream data from storage for evacuation conservation based on said acquired whereabouts.
[0061]
[Embodiment of the Invention] Hereafter, one gestalt of implementation of this invention is explained.
Gestalt 1. drawing 1 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 1 of this operation is applied. In drawing 1 center equipment and 3 for local equipment and 2 Data control equipment (retrieval means), The storage which records the stream data for a monitor from which 4 was obtained by local equipment 1, In 5, a network and 6 a data input means and 8 for an indicating equipment and 7 Input data are recording and a read-out means, The means of communications by the side of local equipment 1 and 9b 9a The means of communications by the side of center equipment 2, For the means of communications by the side of data control equipment 3, and 10, as for a Distributed-Data-Management means (retrieval means) and 12, a data-processing means and 11 are [9c / stream data index information and 13] endless record data (stream data). Moreover, drawing 2 is explanatory drawing showing the example of a retrieval result in the gestalt 1 of this operation.
[0062] Next, actuation is explained. First, the stream entry of data in local equipment 1, are recording, read-out, a communication link, and processing of the stream data which the stream data of center equipment 2 received and received are explained. The data input means 7 in local equipment 1 inputs and digitizes the image and voice data from the camera and microphone for a monitor. This digitized data is encoded [data / image] by PCM, ADPCM, etc. about MJPEG, MPEG, and voice data, and that coded data is recorded on the storage 4, such as a hard disk, as endless record data 13 based on endless record [****] in time by input data are recording and the read-out means 8. Moreover, according to the demand from center equipment 2, reading appearance of said recorded endless record data 13 is

carried out by input data are recording and the read-out means 8.
[0063] While the endless record data 13 by which reading appearance was carried out is transmitted to center equipment 2 by means-of-communications 9a through a network 5, the means of communications 11 of center equipment 2 receives said endless record data 13. The endless record data 13 received in center equipment 2 is decoded with the data-processing means 10, it is displayed on a display 6 or processing of image recognition etc. is performed.
[0064] Next, actuation of data control equipment 3 is explained. Means-of-communications 9c of data control equipment 3 receives the stream data retrieval demand message from center equipment 2 which asks the whereabouts of the endless record data 13 recorded on storage 4 by local equipment 1, and Distributed-Data-Management means 9b processes the stream data retrieval demand concerned, and returns a stream data retrieval result message to center equipment 2 by means-of-communications 9c. The Distributed-Data-Management means 11 is managed here using the stream data index information 12 that the whereabouts of the endless record data 13 with which it is temporal, i.e., new data is automatically recorded according to time amount progress, and old data is eliminated recorded on the storage 4 of each local equipment 1 is shown in drawing 1 .
[0065] The endless chart-lasting-time width of face in the storage 4 of each local equipment 1 other than information, such as input devices, such as a camera and a microphone, local equipment 1, a coding method, and a coding rate, is contained in this stream data index information 12. It becomes clear whether to hold the endless record data 13 by the time of day of when when each local equipment goes back to the past from current time with this endless chart-lasting-time width of face. Therefore, when center equipment 2 carries out the stream data retrieval demand which specified the time amount section as shown in drawing 2 , it sets at current time 15:20 50 seconds on December 26, 96. When the whereabouts of the endless record data 13 from time amount section 14:30 30 seconds on December 26, 96 in all the local equipments 1 to 14:40 30 seconds on December 26, 96 is asked, The Distributed-Data-Management means 11 [whether the endless record data 13 which is satisfied with each local equipment 1 of retrieval conditions from current time and endless chart-lasting-time width of face exists, and] If it exists, a retrieval result as searches any endless record data from when to when there is from the stream data index information 12 and shows it to drawing 2 will be answered to center equipment 2 by means-of-communications 9c.
[0066] In the example of drawing 2 , endless chart-lasting-time width of face is short like local equipment Loc9, and it is indicated to be the case where there is endless record data of all the specified time amount sections like the endless record data which exists in the local equipments Loc3 and Loc17 that endless record data may exist in a part of specified time amount section.
[0067] Since the information on local equipment or the time amount section that the endless record data 13 exists is included in a retrieval result, it points to center equipment 2 so that the time amount section may be specified from said retrieval result to specific local equipment and the desired endless record data 13 may be transmitted, and it can display the transmitted endless record data 13.
[0068] In addition, when endless chart-lasting-time width of face, a coding rate, etc. of local equipment 1 are changed, some are considered as a means by which data control equipment 3 acquires said changed endless chart-lasting-time width of face, coding rate, etc. first, in changing dynamically endless chart-lasting-time width of face, a coding rate, etc. of local equipment 1 by the demand from center equipment 2 etc. during system operation The local equipment 1 which received modification transmits a modification message to data control equipment 3 spontaneously. [whether the Distributed-Data-Management means 11 changes the contents of the stream data index information 12, and] Or center equipment 2 etc. requires parameter modification of endless record of specific local equipment 1 from data control equipment 3. While data control equipment 3 gives a variation order to local equipment 1, the Distributed-Data-Management means 11 is the method of changing the stream data index information 12 etc.
[0069] According to the gestalt 1 of this operation, as mentioned above, the whereabouts of the endless record data 13 recorded on the storage 4 of local equipment 1 It manages using the stream data index information 12 that the Distributed-Data-Management means 11 contains the endless chart-lasting-time width of face of each local equipment 1 in data control equipment 3. According to the stream data retrieval demand message which specified the time amount section received from center equipment 2 by means-of-communications 9c, a pair necropsy funiculus is carried out to the stream data index information 12. Since it was made to reply to center equipment 2 by means-of-communications 9c by making into a stream data retrieval result message local equipment 1, the time amount section, etc. when the endless record data 13 which suits conditions exists Even when much local equipments exist, the effect that retrieval time is shortened sharply is acquired that center equipment 2 should just perform an inquiry once to data control

equipment 3.
[0070] Moreover, since data control equipment 3 is managed using the stream data index information 12, without moving the substance of the temporal endless record data 13 recorded on the storage 4 of local equipment 1, it can control use of system resources, such as CPU, memory, and a network.
[0071] Moreover, the stream data retrieval demand emitted from center equipment 2 can ask the whereabouts of endless record data using the class of not only assignment of the time amount section but coding, and the retrieval parameter about other information of an input device so that clearly from drawing 1 .
[0072] Furthermore, time series data, such as measurement data from the sensor equipment connected to local equipment 1 in addition to the camera or the microphone and control data of equipment, can be regarded as the same endless record data as an image or voice, endless record of such time series data can be carried out to the storage 4 of local equipment 1, and said time series data can also be managed with data control equipment 3 using the stream data index information containing endless chart-lasting-time width of face.
[0073] In addition, although the case where one data-control equipment 3 exists on a network in the above explanation explained, it is possible to also constitute so that more than one exist, each shares local equipment and center equipment 2, coordination actuation may be performed, or the stream index information that two or more data-control equipments are [sake / when failure occurs] the same may be managed and other data-control equipments may carry out alternative actuation at the time of failure.
[0074] Moreover, although the above explanation explained data control equipment 3 as an independent dedicated device, the Distributed-Data-Management means 11 of data control equipment 3 and means-of-communications 9c may be the configurations of operating in center equipment 2, the local equipment 1, etc. which do not necessarily need to operate as dedicated devices and have a throughput.
[0075] Furthermore, it is also possible to include the various data about local equipments in which it is shown that it is broken local equipment, such as information, in the stream data index information 12 shown in drawing 1 .
[0076] The acquisition method and supervisory equipment of a gestalt 2 of gestalt 2. of operation, next operation are explained. Although the acquisition method of the gestalt of this operation and the configuration of supervisory equipment are the same as the configuration of the acquisition method of the gestalt 1 of said operation, and supervisory equipment and stream data retrieval information is also the same contents as the stream data index information 12 on the gestalt 1 of said operation, the retrieval results of the stream data retrieval demand of center equipment 2 differ.
[0077] Although drawing 3 shows this example of a retrieval result, a different point from the retrieval result shown in drawing 2 is that the endless chart-lasting-time width of face of the local equipment with which the endless record data 13 which suits retrieval conditions exists is contained. This is data used when the time difference which cannot be disregarded arises for the transit delay which originates in the throughput and network load of each equipment at the time of day which carried out retrieval processing with data control equipment 3, and the time of day when center equipment 2 received the stream data retrieval result message.
[0078] Since the endless record data 13 is endlessly rewritten repeatedly by said endless chart-lasting-time width of face, under the condition that the transit delay has arisen, the condition that the old stream data of the endless record data 13 which suits the conditions of a stream data retrieval demand depending on the time amount width of face of said transit delay is rewritten produces it. For this reason, center equipment 2 carries out amendment count of the time amount section of the endless record data 13 which exists in this time from said endless chart-lasting-time width of face, time amount width of face of said transit delay, etc., and center equipment 2 can give a stream data read-out demand to local equipment 1 about the endless record data 13 of said amended time amount section, or can display said amended time amount section on an operator.
[0079] According to the gestalt 2 of this operation, as mentioned above, the Distributed-Data-Management means 11 of data control equipment 3 Since the endless chart-lasting-time width of face corresponding to the endless record data 13 which suits retrieval conditions is included in the retrieval result of endless record data and it was made to answer Even when the time delay according [the time amount width of face between the time of day which data control equipment 3 searched, and the time of day when center equipment 2 received the reply] to network transmission etc. cannot ignore greatly Center equipment 2 gives the stream data read-out demand of the endless record data of said time amount section which exists by this time amended from said endless chart-lasting-time width of face and said time delay to local equipment 1, or The effect which can display the right time amount section when endless record data exists on an

operator is acquired.
[0080] In addition, although endless chart-lasting-time width of face was explained as time correction information in the above explanation, if the retrieval time of day in data control equipment 3 is further included in a retrieval result, it is that center equipment 2 displays said retrieval time of day with the time amount section of endless record data as a retrieval result list, and it can specify whether it existed, when the endless record data which suits an operator at a pair necropsy wire rope affair was when. Moreover, if the endless chart-lasting-time width of face which center equipment 2 received is matched with local equipment 1 and held, unless the endless chart-lasting-time width of face concerned will be changed, it can ask for the time amount section of the endless record data which exists in the local equipment concerned for itself [center equipment 2].
[0081] Gestalt 3. drawing 4 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 3 of this operation is applied. In drawing 4 , the sign same about a portion the same as that of drawing 1 or considerable is attached, and explanation is omitted. As for data control equipment (retrieval means) and 22, in drawing, the stream data (henceforth event record data) with which 20 is recorded on local equipment 1 and by which event record was carried out, and 21 are [a Distributed-Data-Management means (retrieval means) and 23] stream data index information.
[0082] Next, actuation is explained. The actuation about processing of the stream data which the stream entry of data in local equipment 1, are recording, read-out, a communication link, and the stream data in center equipment 2 received and received with the gestalt of this operation is the same as that of the gestalt 1 of said operation. Moreover, the event record data 20 is memorized by the storage of the gestalt of this operation.
[0083] Means-of-communications 9c of data control equipment 21 receives the stream data retrieval demand message which asks the whereabouts of the event record data 20 in the local equipment sent from center equipment 2. And the Distributed-Data-Management means 22 processes the stream data retrieval demand which received, and returns a stream data retrieval result message to center equipment 2 by means-of-communications 9c. The Distributed-Data-Management means 22 is managed here as stream data index information 23 which shows the whereabouts of the event record data 20 recorded on each local equipment in drawing 4 . 23f of chart-lasting-time section information expressed with the recording start time of day and record end time of the event record to everything but encoded information 23e with each local equipment which are called input device 23c, such as information on the event itself, a camera, and a microphone, 23d of local equipment, coding methods, and coding rates, such as event identifier (event ID) 23a and type 23b, is included in this stream data index information 23 to each stream data.
[0084] For 23f of chart-lasting-time section information on the stream data index information 23 shown in drawing 4 , the event generating time information 231 and the chart-lasting-time width-of-face information 232 before and behind that are described, and recording start time of day and record end time can be found by these. From center equipment 2, therefore, when [for example,] there is a stream data retrieval demand which specified the time amount section by the retrieval sentence as shown in (b) of drawing 5 , Namely, when the whereabouts of the event record data 20 from time amount section 14:30 30 seconds on December 26, 96 in all local equipments to 14:40 30 seconds on December 26, 96 is asked, The Distributed-Data-Management means 22 [whether the event record data 20 which is satisfied with each local equipment of said retrieval conditions from 23f of chart-lasting-time sections of event record exists, and] If it exists, a retrieval result as searches any data from when to when there is from the stream data index information 23 and shows it to drawing 5 will be answered to center equipment 2 by means-of-communications 9c.
[0085] Drawing 5 shows what exists in the time amount section when event generating time of day was specified like event ID"ev103", and the example which exists in the time amount section specified by event recording start time of day although event generating time of day is outside the time amount section like event ID"ev104."
[0086] Since the information on local equipment or the time amount section of event record that the event record data 20 exists is included in a retrieval result, it points to center equipment 2 so that the time amount section may be specified to specific local equipment 1 and the desired event record data 20 may be transmitted, and it can display the transmitted event record data 20.
[0087] Data control equipment 21 is partly considered as a means to acquire the stream data index information 23 over the event record data 20. When the center equipment 2 by which one example was connected with local equipment 1 with the network or the signal line of dedication gives the alert for an event, while local equipment 1 performs event record, an event recorded message including the time amount section of the event record concerned is spontaneously transmitted to data control equipment 21, and the Distributed-Data-Management means 22 of data control equipment

21 changes the contents of the stream data index information 23.
[0088] Moreover, when the sensor equipment by which another example was connected with center equipment 2 with the network 5 or the signal line of dedication gives the alert for an event, while data control equipment 21 gives an event record instruction to local equipment 1, the Distributed-Data-Management means 22 of data control equipment 21 changes the stream data index information 23.
[0089] In data control equipment 21 as mentioned above, the gestalt 3 of this operation -- getting twisted -- the Distributed-Data-Management means 22 It manages using the stream data index information 23 including the time amount section expressed with the recording start time of day and record end time of event record of the whereabouts of each event record data 20 recorded on local equipment 1. As opposed to the stream data retrieval demand message about the whereabouts of the event record data 20 by which event record was carried out which specified the time amount section received from center equipment 2 by means-of-communications 9c Since it was made to answer to center equipment 2 by means-of-communications 9c by making into a stream data retrieval result message local equipment 1, the time amount section, etc. when the event record data 20 which searches based on the stream data index information 23, and suits conditions exists, like the gestalt 1 of said operation Even when much local equipments exist, center equipment 2 can know local equipment, the time amount section, etc. when the event record data 20 which suits said conditions exists only by performing an inquiry once to data control equipment 21, and the effect that retrieval time is shortened sharply is acquired.
[0090] Moreover, in order to manage data control equipment 21 using the stream data index information 23, without moving the substance of event record data to local equipment 1, the effect which can control use of system resources, such as CPU, memory, and a network, is acquired.
[0091] Moreover, other information [demand / which is sent from center equipment 2 / stream data retrieval], such as not only assignment of the time amount section but an event identifier, a class of a type and coding, and an input device, can be performed as a retrieval parameter, and the whereabouts of event record data can be asked so that clearly from drawing 4 .
[0092] Furthermore, it is manageable using stream data index information 23 including the time-amount section which regards time series data which were connected to local equipment 1, and which are not illustrated, such as measurement data from sensor equipment, and control data of equipment, as the same stream data as an image or voice, carries out event record of such time series data with local equipment 1, and is expressed with the recording start time of day and the record end time of event record in data-control equipment 21 in addition to a camera or a microphone.
[0093] In addition, it is possible to also constitute so that center equipment 2, local equipment, etc. with the coordination actuation by two or more data-control equipments, the alternative actuation at the time of failure, and a throughput may have the function of center equipment 2 like the gestalt 1 of said operation, and various data about local equipments in which it is shown that a certain local equipment is breaking down, such as information, may include in the stream data index information 23 shown in drawing 4 .
[0094] Gestalt 4. drawing 6 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 4 of this operation is applied. In drawing 6 , the sign same about a portion the same as that of drawing 1 and drawing 4 or considerable is attached, and explanation is omitted. For evacuation conservation equipment and 32, in drawing, evacuation data accumulation and a read-out means (an evacuation conservation means, evacuation conservation management tool), and 33 are [31 / the storage for evacuation conservation and 9d of evacuation conservation data and 34] means of communications of evacuation conservation equipment 31. As for data control equipment (retrieval means) and 42, 41 is [a Distributed-Data-Management means (retrieval means) and 43] stream data index information. Drawing 7 is explanatory drawing to the storage 34 for evacuation conservation of the evacuation conservation equipment 31 of stream data showing the method of evacuation conservation. In drawing, the header information table of the event record data 20 with which 51 carried out the evacuation conservation data control table, and 52 carried out evacuation conservation of an evacuation conservation substance file and 53, and 54 are the header information tables of the endless record data 13 which carried out evacuation conservation.
[0095] Drawing 8 is explanatory drawing showing the stream data index information for managing the whereabouts of the evacuation conservation data 33 with which the Distributed-Data-Management means 42 is recorded on each evacuation conservation equipment 31, and the header information table of the event record data with which 55 carried out evacuation conservation of an evacuation conservation data control table and 56, and 57 are the header information

tables of the endless record data 13 which carried out evacuation conservation. Drawing 9 is explanatory drawing showing the retrieval result which data control equipment 41 answered to center equipment 2 by means-of-communications 9c, and the retrieval result about the evacuation conservation data with which 58 fills retrieval conditions, and the event record data in which 59 carried out evacuation conservation, and 60 are as a result of [about the endless record data which carried out evacuation conservation] retrieval.

[0096] Next, actuation is explained. The actuation about processing of the stream data which the stream entry of data in local equipment 1, are recording, read-out, a communication link, and the stream data in center equipment 2 received and received with the gestalt of this operation is the same as that of the gestalt 1 of said operation, and the gestalt 4 of said operation.

[0097] In order that evacuation conservation equipment 31 may carry out evacuation conservation of the stream data based on endless record of the specified time amount section which exists in the specified local equipment 1 by the command from center equipment 2 etc., and event record, it outputs the transmission demand of the stream data which corresponds to the local equipment concerned by 9d of means of communications, and receives stream data. And while evacuation data accumulation and the read-out means 32 record the received stream data on the storage 34 for evacuation conservation, such as a hard disk, the recorded stream data is read according to the demand from center equipment 2. The stream data by which reading appearance was carried out is transmitted to center equipment 2 through a network 5 by 9d of means of communications, and is received by means-of-communications 9b of center equipment 2.

[0098] The method of the evacuation conservation to the evacuation conservation equipment 31 of said stream data in this case For example, the identifier and evacuation conservation time of day of data which were evacuated to the evacuation conservation data control table 51 as shown in drawing 7 , Describe the reference pointer to the class and header information table of stream data, the substance file name of evacuation conservation data, etc., and evacuation data accumulation and the read-out means 32 refer to this evacuation conservation data control table 51. the substance of the specified stream data by which evacuation conservation is carried out -- the -- it passes and DDA information is read. In case evacuation conservation of the substance of stream data is carried out, the header information of the stream data based on the endless record and event record which carried out evacuation conservation is made to transmit from the local equipment 1 concerned, and is acquired.

[0099] Means-of-communications 9c of data control equipment 41 receives the stream data retrieval demand message which asks the whereabouts of the stream data which exists in the evacuation conservation equipment 31 sent from center equipment 2, and by which evacuation conservation was carried out, and the Distributed-Data-Management means 42 processes the stream data retrieval demand which received, and returns a stream data retrieval result message to center equipment 2 by means-of-communications 9c. The Distributed-Data-Management means 42 is managed here using the stream data index information that the whereabouts of the evacuation conservation data 33 recorded on each evacuation conservation equipment 31 is shown in drawing 8 . The evacuation conservation identifier to each stream data, and the class which and carried out evacuation conservation and header information of data are described by this stream data index information, and the time amount section expressed with the recording start time of day and record end time in each local equipment is included in DDA information to ** at it. [the class] [evacuation conservation]

[0100] Center equipment 2 Therefore, when [for example,] the whereabouts of the stream data recorded in local equipment on from time amount section 14:30 30 seconds on December 26, 96 which exists in all evacuation conservation equipments before 14:40 30 seconds on December 26, 96 is asked, It searches the data from when to when if the Distributed-Data-Management means 42 exists [whether the stream data with which it is satisfied of said retrieval conditions from the time amount section described by header information exists in evacuation conservation equipment 31, and], it has. And a retrieval result as shown in drawing 9 is answered to center equipment 2 by means-of-communications 9c. The retrieval result shown in drawing 9 shows the case where the stream data based on the event record or endless record which exists in two or more evacuation conservation equipments 31 by which evacuation conservation was carried out suits retrieval conditions.

[0101] Since the information on evacuation conservation equipment 31 or the time amount section that stream data exists is included in a retrieval result, it points to center equipment 2 so that the time amount section may be specified to specific evacuation conservation equipment 31 and desired stream data may be transmitted, and it can display the transmitted stream data.

[0102] Some are considered as a means by which data control equipment 41 acquires the stream data index information

about the stream data by which evacuation conservation is carried out. Evacuation conservation equipment 31 transmits the message about evacuation conservation to data control equipment 41 spontaneously, while performing evacuation conservation, and as for one example, the Distributed-Data-Management means 42 changes the contents of stream data index information. Moreover, data control equipment 41 receives the evacuation conservation demand from the outside, data control equipment 41 outputs an evacuation conservation instruction to evacuation conservation equipment 31, and, as for another example, the Distributed-Data-Management means 42 of data control equipment 41 changes stream data index information.

[0103] As mentioned above, according to the gestalt 4 of this operation, it sets to data control equipment 41. It manages using stream data index information including the time amount section when the Distributed-Data-Management means 42 is expressed with the recording start time of day when the stream data concerned was recorded on evacuation conservation equipment 31 with local equipment 1 in the whereabouts of the stream data by which evacuation conservation is carried out, and record end time. It searches from stream data index information to the stream data retrieval demand message about the whereabouts of said stream data by which evacuation conservation was carried out which specified the time amount section received from center equipment 2 by means-of-communications 9c. Since it was made to reply to center equipment 2 by means-of-communications 9c by making into a stream data retrieval result message evacuation conservation equipment 31, the time amount section, etc. when the stream data which suits conditions exists Like the gestalt 1 of said operation, even when much evacuation conservation equipments exist, center equipment 2 is a one-time inquiry. The information about the whereabouts about evacuation conservation equipment 31, the time amount section, etc. that the stream data which suits conditions exists can be acquired, and the effect that retrieval time is shortened sharply is acquired.

[0104] Moreover, since data control equipment 41 is managed using the stream data index information 43, without moving the substance of the stream data recorded on evacuation conservation equipment 31, it can control use of system resources, such as CPU, memory, and a network.

[0105] Moreover, it can carry out by the ability make into a retrieval parameter other information of the event identifier, the class of a type and coding, the input device, and local equipment which are describe by not only assignment of the time amount section but header information in the stream data retrieval demand from center equipment 2, and the whereabouts of evacuation conservation data can be ask so that clearly from the stream data index information showed in drawing 8 . Furthermore, time series data, such as measurement data from the sensor equipment connected to local equipment in addition to the camera or the microphone and control data of equipment, are regarded as the same stream data as an image or voice. Event record is carried out. such time series data -- local equipment 1 -- endless record -- Evacuation conservation can be carried out at evacuation conservation equipment 31, and it can also manage in data control equipment 41 using stream data index information including the time amount section expressed by evacuation conservation equipment 31 in the evacuation conservation data which carried out evacuation conservation by the recording start time of day and record end time in local equipment.

[0106] In addition, the coordination actuation by two or more data control equipments, the alternative actuation at the time of failure generating, evacuation conservation equipment with a throughput, center equipment, or local equipment is possible also for a configuration with the function of center equipment like the gestalt 1 of said operation. Moreover, various data about evacuation conservation equipment, such as information about the evacuation conservation equipment which is breaking down, may be included in the stream data index information shown in drawing 8 .

[0107] The acquisition method and supervisory equipment of a gestalt 5 of gestalt 5. of operation, next implementation of this invention are explained. The configuration of the supervisory equipment with which the acquisition method of the gestalt 5 of this operation is applied is the same as the configuration shown in drawing 6 of the gestalt 4 of said operation, and refer to drawing 6 for it by the following explanation. Drawing 10 is explanatory drawing showing the stream data index information on supervisory equipment that the acquisition method of the gestalt 5 of this operation is applied, and, as for endless record index information and 62, 61 is [event record index information and 63] evacuation conservation index information in drawing. Drawing 11 is explanatory drawing showing a retrieval result, and, as for endless record header information and 67, 66 is [event record header information and 68] evacuation conservation header information in drawing.

[0108] Next, actuation is explained. The actuation about processing of the stream data which the stream entry of data in local equipment 1, are recording, read-out, a communication link, and the stream data in center equipment 2 received and received with the gestalt of this operation is the same as that of the gestalt 4 of said operation.

[0109] Means-of-communications 9c of the data control equipment 41 of the gestalt 4 of this operation receives the stream data retrieval demand message which asks the whereabouts of the stream data recorded on the local equipment 1 or the evacuation conservation equipment 31 sent from center equipment 2, and the Distributed-Data-Management means 42 processes the stream data retrieval demand concerned, and returns a stream data retrieval result message to center equipment 2 by means-of-communications 9c. The Distributed-Data-Management means 42 is managed here using the stream data index information which shows the whereabouts of the various stream data recorded on the storage 34 for evacuation conservation of the storage 4 of local equipment 1, or evacuation conservation equipment 31 in drawing 10 .
[0110] The endless record index information 61 shown in drawing 10 is the same as the stream data index information on the gestalt 1 of said operation shown in drawing 1 . Moreover, the event record index information 62 is the same as the stream data index information on the gestalt 3 of said operation shown in drawing 4 . The evacuation conservation index information 63 is the same as the stream data index information on the gestalt 4 of said operation shown in drawing 8 , and the stream data index information on the gestalt 5 of this operation consists of pointer tables 64 showing each [these] stream data index information and its whereabouts. The time amount section expressed with the recording start time of day and record end time in each local equipment other than information, such as input device [, such as a camera and a microphone,], local equipment, and coding relation, event relation, and evacuation conservation relation, is included in said each stream data index information. [to each stream data]
[0111] Therefore, when center equipment 2 carries out the stream data retrieval demand which specified the time amount section, The Distributed-Data-Management means 42 from the time amount section of various stream data [whether the stream data which is satisfied with local equipment 1 or evacuation conservation equipment 31 of retrieval conditions exists, and] If it exists, the retrieval result which searches any data from when to when there is from said each stream data index information 61, 62, and 63, and shows it to drawing 11 will be answered to center equipment 2 by means-of-communications 9c.
[0112] Drawing 11 shows that the stream data by which evacuation conservation was carried out conforms to the endless record data recorded on local equipment 1 and event record data, and evacuation conservation equipment 31 at retrieval conditions. The retrieval demand at this time out of the stream data recorded on all local equipments and evacuation conservation equipments It is what asks the whereabouts of the stream data currently recorded on local equipment at the assignment time amount section. Endless record, event record, and existing again make the parameter the time amount section which does not carry out assignment, such as local equipment or evacuation conservation equipment, but is expressed with the recording start time of day and record end time in the unified local equipment.
[0113] Since the information on the local equipment with which stream data exists, evacuation conservation equipment, and the time amount section is included in a retrieval result, it points to center equipment 2 so that the time amount section may be specified to specific local equipment and evacuation conservation equipment and desired stream data may be transmitted, and it can display the transmitted stream data.
[0114] A means by which data control equipment 41 acquires the stream data index information over endless record, event record, and evacuation conservation can consider some methods which were stated in the example 1, the example 3, and the example 4.
[0115] As mentioned above, according to the gestalt 5 of this operation, it sets to data control equipment 41. The endless chart-lasting-time width of face of the endless record data with which the Distributed-Data-Management means 42 is recorded on local equipment 1, The time amount section expressed with the recording start time of day and record end time of the event record data recorded on local equipment 1, Stream data index information including the time amount section expressed with the recording start time of day and record end time in local equipment 1 of the evacuation conservation data recorded on evacuation conservation equipment 31 is managed. Said stream data index information is retrieved to the stream data retrieval demand message about the whereabouts of the stream data by which event endless record and record or evacuation conservation was carried out which specified the time amount section received from center equipment 2 by means-of-communications 9c. And since it replies to center equipment 2 by means-of-communications 9c by making into a stream data retrieval result message the local equipment 1 with which the stream data which suits said conditions exists, evacuation conservation equipment 31, the time amount section, etc. Like the gestalt 1 of said operation, even when much local equipment and evacuation conservation equipment exist, center equipment only performs an inquiry once. The information about the local equipment 1 with which the stream data which suits said conditions exists, evacuation conservation equipment 31, the time amount section, etc. can be

acquired, and retrieval time is shortened sharply.
[0116] Moreover, since data control equipment 41 is managed using said stream data index information, without moving the substance of the stream data recorded on local equipment 1 or evacuation conservation equipment 31, it can control use of system resources, such as CPU, memory, and a network.
[0117] Furthermore, it can be searched in the time amount section expressed with the recording start time of day and record end time in the unified local equipment being unconscious of local equipment or evacuation conservation equipment that endless record, event record, and the stream data that suits said conditions again exists, and the inquiry procedure of center equipment 2 is simplified.
[0118] Moreover, the whereabouts of stream data can be asked by performing other information [demand / which is sent from center equipment 2 / stream data retrieval], such as not only assignment of the time amount section but an event identifier, a class of a type and coding, and an input device, as a retrieval parameter so that clearly from drawing 10 .
[0119] moreover, time series data which were connected to local equipment 1 in addition to the camera or the microphone and which are not illustrated, such as measurement data from sensor equipment, and control data of equipment, -- as the same stream data as an image or voice -- catching -- such time series data -- local equipment 1 -- endless record -- event record is carried out and evacuation conservation is carried out at evacuation conservation equipment 31. And said time series data are also manageable using stream data index information including the time amount section expressed with endless chart-lasting-time width of face, and the recording start time of day and record end time of event record in data control equipment 41, the time amount section expressed with the recording start time of day and record end time of evacuation conservation data in local equipment.
[0120] In addition, the configuration which center equipment with the coordination actuation by two or more data-control equipments, the alternative actuation at the time of failure, and a throughput, local equipment, etc. equip with the function of center equipment is possible, and the various data about local equipments and evacuation conservation equipments, such as the information which shows the local equipment which is breaking down to the stream data index information shown in drawing 10 , and evacuation conservation equipment, may include like the gestalt 1 of said operation.
[0121] Gestalt 6. drawing 12 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 6 of this operation is applied. In drawing 12 , the sign same about a portion the same as that of drawing 1 or considerable is attached, and explanation is omitted. In drawing, the time-of-day agreement means formed in local equipment 1 for 71 to make the time of day in the local equipment 1, the center equipment 2, and the data control equipment 41 on a network 5 agree, a time-of-day agreement means by which 72 was similarly prepared in center equipment 2, and 73 are the time-of-day agreement means similarly formed in data control equipment 3.
[0122] Next, actuation is explained. The stream entry of data in the local equipment 1 of the gestalt of this operation, are recording, read-out, a communication link and processing of the stream data which the stream data in center equipment 2 received and received, Distributed Data Management [in / further / data control equipment 3], and stream data retrieval processing are the same as that of the gestalt 1 of said operation.
[0123] Since the local equipment 1, the center equipment 2, and the data control equipment 3 which were connected to the network 5 have the time-of-day agreement means 71, 72, and 73, these time-of-day agreement means sets the clock of local equipment 1, center equipment 2, and data control equipment 3 at the same common time of day by the whole system. These time-of-day agreement means 71, 72, and 73 are realized by the technology of common knowledge called NTP (Network Time Protocol) equipped by UNIX or Windows.
[0124] As explained above, according to the gestalt 6 of this operation, with each time-of-day agreement means 71, 72, and 73 of local equipment 1, center equipment 2, and data control equipment 3 Since it becomes possible to set a self clock at system-wide common time of day, local equipment 1, center equipment 2, and data control equipment 3 The precision of the clock of local equipment 1, center equipment 2, and data control equipment 3 differs, and even when the time-of-day difference which cannot be disregarded if it remains as it is arises, it is effective in management and retrieval of stream data without a time-of-day difference being realizable.
[0125] In addition, although the gestalt of this operation explained as what applies a time-of-day agreement means to the configuration of the gestalt 1 of said operation, you may be the configuration which applies a time-of-day agreement means from the gestalt 2 of said operation to the gestalt 5 of said operation, and the same effect as the case

where it applies to the gestalt 1 of said operation can be acquired.
[0126] Gestalt 7. drawing 13 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 7 of this operation is applied. Drawing 14 is explanatory drawing showing a time-of-day difference table. In drawing 13 , the sign same about a portion the same as that of drawing 1 or considerable is attached, and explanation is omitted. In drawing 13 , 81 is a time-of-day difference measurement means for data control equipment (correction value operation means) 3 to measure a time-of-day difference with the time of day which the clock of the time of day which the self clock shows, local equipment 1, and center equipment 2 shows.
[0127] Next, actuation is explained. The stream entry of data in the local equipment 1 of the gestalt of this operation, are recording, read-out, a communication link and processing of the stream data which the stream data in center equipment 2 received and received, Distributed Data Management [in / further / data control equipment 3], and stream data retrieval processing are the same as that of the gestalt 1 of said operation.
[0128] Data control equipment 3 measures the time-of-day difference of the time of day which a self clock shows with the time-of-day difference measurement means 81, and the time of day which the clock of local equipment 1 or center equipment 2 shows. If delivery and partner equipment receive the time-of-day query message concerned for the time-of-day query message to which the data control means 3 added the self time stump as an example of the measurement means in this case to partner equipment, the return message which added the self time stump apart from said time stump immediately will be returned to data control equipment 3. With data control equipment 3, the transit delay time amount of a round trip is calculated from the time stump when transmitting self time of day and said time-of-day query message of a clock at the time of receiving the return message concerned, and a time-of-day difference is calculated from the time stump of the transit delay time amount and partner equipment. An accurate time-of-day difference can be searched for by equalizing the result of inquiry processing of multiple times, if it is the network with little fluctuation and equipment of a transit delay. Thus, the measured time-of-day difference is held as a time-of-day difference table as shown in drawing 14 .
[0129] On the other hand, if there is a stream data retrieval demand which specified the time amount section from center equipment 2, data control equipment 3 will carry out a pair necropsy funiculus to stream data index information, after amending a mutual time-of-day difference with reference to said time-of-day difference table. For example, since the time-of-day difference of center equipment cent1 and local equipment Loc1 serves as **TL1-**Tc1 in case the stream data which exists in local equipment Loc1 with time-of-day difference **TL1 is searched to the retrieval demand from center equipment cent1 with time-of-day difference **Tc1 with data control equipment 3, only this time-of-day difference amends the time-amount section of stream data index information, and retrieval processing is carried out. Although a retrieval result may be the same as that of the contents shown in drawing 2 , if the time-of-day difference of center equipment 2 and local equipment 1 is added, center equipment 2 can require transmission of stream data from local equipment 1 in said amended time amount section.
[0130] As mentioned above, according to the gestalt 7 of this operation, it sets to data control equipment 3. The time-of-day difference measurement means 81 measures the time-of-day difference produced between the clock of data control equipment 3, and the clock of each local equipment 1 or center equipment 2, and creates a time-of-day difference table. As opposed to the stream data retrieval demand which specified the time amount section from center equipment 2 The Distributed-Data-Management means 11 retrieves stream data index information, after said time-of-day difference table amends the time-of-day difference of each equipment. The local equipment 1, the time-of-day difference in which the stream data which suits conditions exists, The time amount section etc. can be answered as a retrieval result, and even when the precision of the clock of local equipment 1, center equipment 2, and data control equipment 3 differs and the time-of-day difference between each clock cannot be disregarded, it is effective in management of stream data without a time-of-day difference and retrieval being realizable.
[0131]
[Effect of the Invention] As mentioned above, according to invention according to claim 1, the stream data obtained about the candidate for a monitor is memorized to the media of the storage capacity restricted on the network. The stream data index information about the whereabouts of said stream data currently recorded on said media is intensively managed on said network. Retrieve said stream data index information managed intensively based on retrieval conditions, and the retrieval result about the whereabouts of stream data is obtained. By acquiring the whereabouts of stream data which satisfies said retrieval conditions according to a stream data whereabouts acquisition process based on the retrieval result concerned Since it constituted so that said stream data might be acquired from said

media which recorded the stream data concerned and the stream data about said candidate for a monitor might be collected The stream data which it becomes unnecessary to ask no media on said network the whereabouts of the stream data currently recorded, and is going to collect them is searched at a high speed, and there is an efficiently collectable effect.

[0132] According to invention according to claim 2, the media of the limited storage capacity by using it for endless The stream data which was obtained about the candidate for a monitor and which is continuing in time is recorded on said media distributed on the network. Management about the whereabouts of said stream data is performed based on the stream data index information containing the chart-lasting-time width of face according to the storage capacity of said media at the time of said stream data being endlessly recorded on said media. The whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day is searched to said stream data index information. Since it constituted so that the retrieval result about the whereabouts of said stream data which satisfies said retrieval conditions might be acquired The stream data which can know the stream data currently recorded at present from said chart-lasting-time width of face, and it is going to collect also under the condition that said retrieval takes time amount is searched at a high speed, and there is an efficiently collectable effect.

[0133] According to invention according to claim 3, the stream data obtained about the candidate for a monitor Event record is carried out at the media of the limited storage capacity distributed on the network. Management about the whereabouts of said stream data is performed based on the stream data index information which includes the section about the event generating time of day and chart lasting time at the time of event record of said stream data being carried out in said media. Since it constituted so that the retrieval result with which the whereabouts of said stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day is searched to said stream data index information, and it is satisfied of said retrieval conditions might be acquired The stream data based on said event record which it becomes unnecessary to ask no media on said network the whereabouts of the stream data based on said event record, and is going to collect them is searched at a high speed, and there is an efficiently collectable effect.

[0134] According to invention according to claim 4, based on the stream data index information which contains the chart-lasting-time width of face before and behind the event generating time of day at the time of event record of the stream data being carried out, and the event generating time of day concerned in the media distributed on the network Since it constituted so that management about the whereabouts of stream data by which event record was carried out might be performed Based on said chart-lasting-time width of face before and behind said event generating time of day and the event generating time of day concerned etc., the stream data based on said event record which it is going to collect is searched at a high speed, and there is an efficiently collectable effect.

[0135] According to invention according to claim 5, the media of the limited storage capacity by using it for endless Re-record the stream data which was recorded on said media distributed on the network and which is continuing in time on the media for evacuation conservation, and evacuation conservation is carried out. The header information which described the attribute of stream data including the chart-lasting-time section at the time of recording said re-recorded stream data on said media of the stream data concerned endlessly, It manages by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information including the chart-lasting-time section at the time of said said re-recorded stream data being endlessly recorded on said media Management about the whereabouts of said said stream data currently re-recorded is performed. Search the whereabouts about said media for evacuation conservation which are re-recording the stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information including said chart-lasting-time section, and a retrieval result is acquired. Since it constituted so that the stream data with which are satisfied of said retrieval conditions might be acquired and collected from said media for evacuation conservation It is effective in the ability to search and collect the whereabouts about said media for evacuation conservation of the stream data which it is going to collect and by which endless record was carried out at a high speed based on retrieval conditions including said time amount section.

[0136] According to invention according to claim 6, event record was carried out at the media distributed on the network according to the storage process. About the candidate for a monitor, re-record the obtained stream data on the media for evacuation conservation, and evacuation conservation is carried out. The header information which described the attribute of the stream data containing the event generating time of day and chart-lasting-time width of face at the

time of carrying out event record of said re-recorded stream data at said media of the stream data concerned, It manages by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on the stream data index information containing the event generating time of day and chart-lasting-time width of face at the time of event record of said said re-recorded stream data being carried out at said media Management about the whereabouts of said said stream data currently re-recorded is performed. Search the whereabouts about said media for evacuation conservation which are re-recording the stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information, and a retrieval result is acquired. Since it constituted so that said stream data with which are satisfied of said retrieval conditions might be acquired and collected from said media for evacuation conservation based on said acquired retrieval result It is effective in the ability to search and collect the whereabouts about said media for evacuation conservation of said stream data based on the event record which it is going to collect at a high speed based on retrieval conditions including said time amount section.

[0137] According to invention according to claim 7, the whereabouts of the stream data currently recorded on the media distributed on the network Manage using stream data index information based on the unification-ized time of day, and the whereabouts of stream data is searched to said stream data index information based on retrieval conditions including the assignment by said unification-ized time of day. Since it constituted so that the retrieval result about the whereabouts of stream data which satisfies said retrieval conditions might be acquired the whereabouts about said media of said stream data which it is going to collect -- said -- **** -- it searches at a high speed based on retrieval conditions including the assignment by the time of day-izing [time of day] and managed, and there is an efficiently collectable effect.

[0138] According to invention according to claim 8, deliver and receive the current time information about the time of day currently used in the processing of stream data performed by distributing on a network on said network. The time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information is measured. The correction value about the time of day currently used by processing of said stream data Delivered and received said current time information on said network, while it sets and asks based on said said measured time-of-day difference. The whereabouts and said calculated correction value of said stream data are managed based on the stream data index information on the stream data currently recorded on the media distributed on said network. The time of day specified as retrieval conditions and the time of day in a retrieval result are amended based on said said managed correction value to said stream data index information. The whereabouts of stream data which satisfies said retrieval conditions is searched. Since it constituted so that the stream data with which the retrieval result of said stream data index information about the whereabouts of the stream data amended when retrieval was performed is acquired, and it is satisfied of said retrieval conditions might be acquired from said media Based on the retrieval result about the whereabouts of said stream data amended by said correction value also under the condition that the difference has arisen about the time of day currently used in the processing of stream data performed by distributing on said network There is an effect it is collectable [stream data with a high precision] ineffective.

[0139] According to invention according to claim 9, based on the retrieval result of the amended stream data index information The time difference between media produced between said media at the time of acquiring said stream data from the media which recorded the stream data with which are satisfied of retrieval conditions is got to know. Since it constituted so that the stream data concerned might be acquired from said media which recorded the stream data with which are satisfied of the retrieval conditions amended based on the time difference between the media concerned The whereabouts of said stream data which is satisfied also with the bottom of the condition that the difference has arisen of said amended retrieval conditions can be searched about said media, and the effect it is collectable [stream data with a high precision] ineffective is between the time of day currently used in said media.

[0140] According to invention according to claim 10, it manages based on the time of day which unified the stream data re-recorded on the media for evacuation conservation. The whereabouts of the stream data currently re-recorded on said media for evacuation conservation is managed using the stream data index information based on said unification-ized time of day. The whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions including the assignment by said unification-ized time of day is searched about the media for evacuation conservation to said stream data index information. Since it constituted so that the retrieval result about the whereabouts of stream data which satisfies retrieval conditions including the assignment by said unification-ized time

of day might be acquired There is an effect which can be searched and collected at a high speed based on retrieval conditions including assignment according the whereabouts about said media for evacuation conservation of the stream data which it is going to collect to said unification-ized time of day.
[0141] According to invention according to claim 11, deliver and receive the current time information about the time of day currently used in the processing of stream data performed by distributing on a network on said network. The time-of-day difference generated between the current time information concerned at the time of delivering and receiving is measured. The correction value about the time of day currently used by processing of said stream data Delivered and received said current time information on said network based on said time-of-day difference, while it sets and asks. The whereabouts of said stream data is managed based on the stream data index information on the stream data currently re-recorded on the media for evacuation conservation. Furthermore manage said correction value and the time of day specified as said stream data index information as a pair necropsy wire rope affair and the time of day in a retrieval result are amended based on said correction value. The whereabouts about said media for evacuation conservation of the stream data with which are satisfied of said retrieval conditions is searched. The retrieval result of said stream data index information about the whereabouts of said stream data amended by said correction value is acquired. Since it constituted so that the stream data with which are satisfied of said retrieval conditions might be acquired from said media for evacuation conservation based on said acquired retrieval result The retrieval result in the condition that it does not make said time-of-day difference can be known by amending with said correction value also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on a network. The whereabouts of exact stream data after taking into consideration said time-of-day difference is acquired, and it is effective in stream data being collectable.
[0142] Since according to invention according to claim 12 it constituted so that correction value might be calculated based on a time-of-day difference including the transmission-time difference by the transmission time taken to deliver and receive current time information By amending with said correction value including the transmission-time difference by said transmission time also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on a network The retrieval result in the condition that it does not make said time-of-day difference can be known, the whereabouts of exact stream data after taking into consideration said time-of-day difference is acquired, and it is effective in stream data being collectable.
[0143] According to invention according to claim 13, based on the retrieval result of the amended stream data index information The time difference between media produced between said media for evacuation conservation at the time of acquiring said stream data from the media for evacuation conservation which recorded the stream data with which are satisfied of retrieval conditions is got to know. Since it constituted so that the stream data concerned might be acquired from said media for evacuation conservation which recorded the stream data with which it is satisfied of retrieval conditions based on the time difference between the media concerned Also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on a network The whereabouts of exact stream data after taking into consideration the time difference between said media is acquired, and it is effective in stream data being efficiently collectable.
[0144] The chart-lasting-time width of face of the stream data which is endlessly recorded on the media distributed on the network according to invention according to claim 14, The whereabouts of said stream data is managed based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc. Since it constituted so that the retrieval result with which the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day is searched to said stream data index information, and it is satisfied of said retrieval conditions might be acquired The stream data currently recorded from said time of day of said retrieval conditions etc. can be known, and it is effective in the ability to search the stream data which it is going to collect at a high speed.
[0145] According to invention according to claim 15, stream data index information is received. The whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions and current time containing the time of day and the time width of face which specify stream data is searched. Since it constituted so that the retrieval result about the whereabouts of the stream data containing the recording start time of day and record end time of the stream data with which are satisfied of said retrieval conditions might be acquired From the retrieval result about the whereabouts of the stream data containing the recording start time of day which searched by time of day, and said said time width of face and said current time of said retrieval conditions, and was acquired, and record end time

The stream data currently recorded can be known and it is effective in the ability to search the stream data which it is going to collect at a high speed.
[0146] Recording start time of day and record end time of stream data with which it is satisfied of retrieval conditions according to invention according to claim 16, And since it constituted so that the retrieval result about the whereabouts of the stream data containing the endless chart-lasting-time width of face of the media which recorded the stream data with which are satisfied of said retrieval conditions might be acquired The stream data currently recorded at present can be known from the retrieval result about the whereabouts of said recording start time of day, said record end time, and the stream data containing said endless chart-lasting-time width of face, and it is effective in the ability to search the stream data which it is going to collect at a high speed.
[0147] The chart-lasting-time width of face of the stream data by which endless record is carried out at the media distributed on the network according to invention according to claim 17, The whereabouts of said stream data is managed based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc. As opposed to said stream data index information The generating means of said stream data, Since it constituted so that the retrieval result with which the whereabouts of stream data which satisfies the retrieval conditions concerned by making data-processing format of said stream data etc. into retrieval conditions is searched, and it is satisfied of said retrieval conditions might be acquired It becomes unnecessary to ask no media on said network the whereabouts of the stream data currently recorded. It is effective in the ability to search the stream data which it is going to collect at a high speed from retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data.
[0148] The chart-lasting-time width of face before and behind the event generating time of day for every media which carried out event record of the stream data according to invention according to claim 18, and the event generating time of day concerned, Recording start time of day and record end time of the information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc. is managed. Since it constituted so that the retrieval result with which it searches based on the retrieval conditions containing time of day to said stream data index information, and is satisfied of said retrieval conditions might be acquired It becomes unnecessary to ask no media on said network the whereabouts of the stream data based on said event record. It is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions containing said stream data index information and said time of day.
[0149] According to invention according to claim 19, the pair necropsy funiculus of the whereabouts of the stream data by which event record is carried out is carried out to stream data index information based on retrieval conditions including the time amount section of said event record. Since it constituted so that the retrieval result about the whereabouts of the stream data with which all or a part of event chart lasting time is contained at said time amount section of the event record in said retrieval conditions and by which event record is carried out might be acquired It becomes unnecessary to ask no media on said network the whereabouts of the stream data with which all or a part of event chart lasting time is contained at said time amount section. From the retrieval conditions containing said stream data index information and said time of day, it is effective in the ability to search the stream data based on said event record which it is going to collect at a high speed.
[0150] The chart-lasting-time width of face before and behind the event generating time of day for every media which carried out event record of the stream data according to invention according to claim 20, and the event generating time of day concerned, Recording start time of day and record end time of the information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc. is managed. The information about the event itself, such as said event identifier, said type, etc., Said stream data index information is retrieved based on retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data. Since it constituted so that the stream data with which are satisfied of said retrieval conditions might be acquired and collected from said media based on the retrieval result with which are satisfied of said retrieval conditions It becomes unnecessary to ask no media on said network the whereabouts of said stream data. It is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions containing said stream data index information

and said time of day.
[0151] The generating means [according to invention according to claim 21] of the stream data based on endless record, The terminal with which the data-processing format of said stream data, a type, and said stream data were obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on the media for evacuation conservation, And the conservation evacuation identifier to the reference pointer which specifies the header information concerned, and the stream data based on the endless record re-recorded on the media for evacuation conservation, Based on the stream data index information by the difference in the distinction information on the media for evacuation conservation and said endless record of said stream data, or event record etc. Since it constituted so that the retrieval result with which the whereabouts about said media for evacuation conservation of said stream data is managed, and it searches based on the retrieval conditions containing time of day to said stream data index information, and is satisfied of said retrieval conditions might be acquired It is effective in the ability to search said stream data which it is going to collect at a high speed from the retrieval conditions which it becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and contain said stream data index information and said time of day.
[0152] According to invention according to claim 22, stream data index information is received. It searches based on retrieval conditions and current time including the time amount section which specifies the stream data by which endless record was carried out. Since it constituted so that the whereabouts about the media for evacuation conservation of stream data might be acquired from the recording start time of day with which are satisfied of said retrieval conditions, and record end time It is effective in the ability to search said stream data which it is going to collect at a high speed from the retrieval conditions which it becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and include said stream data index information and said time amount section, or current time.
[0153] The generating means [according to invention according to claim 23] of the stream data based on endless record, The data-processing format of said stream data, the terminal with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on the media for evacuation conservation, And the conservation evacuation identifier to the reference pointer which specifies the header information concerned, and the stream data based on the endless record re-recorded on the media for evacuation conservation, Based on the stream data index information by the type in which the difference in the distinction information on the media for evacuation conservation and said endless record of said stream data, or event record is shown The whereabouts about said media for evacuation conservation of said stream data is managed. As opposed to said stream data index information The generating means of said stream data, Since it constituted so that the whereabouts about the media for evacuation conservation of stream data which satisfy the retrieval conditions concerned by making into retrieval conditions the data-processing format of said stream data, the terminal with which said stream data was obtained might be searched It becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and is effective in the ability to search said stream data which it is going to collect at a high speed from said stream data index information and said retrieval conditions.
[0154] The evacuation conservation identifier to the stream data based on the event record which was re-recorded on the media for evacuation conservation according to invention according to claim 24, the distinction information on the media for evacuation conservation, and the class of said stream data -- and The whereabouts about said media for evacuation conservation of the stream data based on said event record is managed based on the stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on the media for evacuation conservation etc. The whereabouts about said media for evacuation conservation of the stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on the retrieval conditions containing time of day is searched to said stream data index information. Since it constituted so that the whereabouts about said media for evacuation conservation of the stream data with which are satisfied of said retrieval conditions might be acquired It is effective in the ability to search said stream data which it is going to collect at a high speed from the retrieval conditions which it becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and contain said stream data index information and said time of day.
[0155] According to invention according to claim 25, stream data index information is received. The whereabouts about the media for evacuation conservation of stream data which satisfy the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data is searched. Since it

constituted so that the whereabouts of stream data might be acquired based on the recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions It becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data. It is effective in the ability to search the stream data which it is going to collect at a high speed from the recording start time of day of stream data and record end time with which are satisfied of retrieval conditions including said time amount section.
[0156] The generating means [according to invention according to claim 26] of the stream data based on event record, The data-processing format of said stream data, an event identifier, a type, As opposed to header information including the chart-lasting-time section of the terminal with which said stream data was obtained, and said stream data currently re-recorded on the media for evacuation conservation The generating means of stream data, the data-processing format of stream data, The whereabouts about the media for evacuation conservation of said stream data which satisfy the retrieval conditions concerned by making into retrieval conditions the terminal with which an event identifier, a type, or stream data was obtained is searched. The whereabouts about the media for evacuation conservation of said stream data which satisfy said retrieval conditions is acquired. Since it constituted so that stream data might be acquired and collected from the media for evacuation conservation based on the whereabouts of said stream data which satisfies said acquired retrieval conditions It becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from said header information and said retrieval conditions.
[0157] The local equipment which has been distributed and arranged about the candidate for a monitor on said network which records the obtained stream data on the storage of storage capacity with which it was restricted on the network according to invention according to claim 27, The data control equipment which manages intensively the stream data index information about the whereabouts of said stream data currently recorded on said storage on said network, A retrieval means to retrieve said stream data index information managed intensively based on retrieval conditions, The center equipment which obtains stream data from said storage and collects the stream data about said candidate for a monitor based on the whereabouts of said stream data acquired by the retrieval result by this retrieval means, Since it constituted so that it might have the means of communications for transmitting and receiving various information, such as said stream data, on said network, said center equipment It becomes unnecessary to ask no storage on said network the whereabouts of the stream data currently recorded on said storage, and said retrieval means is effective in the ability to search the stream data which said center equipment tends to collect at a high speed.
[0158] According to invention according to claim 28, the storage of the limited storage capacity by using it for endless The local equipment which records the stream data which was obtained about the candidate for a monitor, and which is continuing in time on said storage on a network, The data control equipment which performs management about the whereabouts of said stream data based on the stream data index information containing the chart-lasting-time width of face according to the storage capacity of said storage at the time of said stream data being endlessly recorded on said storage on said network, respectively, A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information containing said chart-lasting-time width of face, Based on the whereabouts of said stream data acquired by the retrieval result about the whereabouts of said stream data which satisfies the retrieval conditions containing said time of day Since it constituted so that it might have center equipment which obtains said stream data from said storage, and collects the stream data about said candidate for a monitor Also under the condition that said retrieval takes time amount, said center equipment can know the stream data currently recorded at present from said chart-lasting-time width of face, and said retrieval means is effective in the ability to search the stream data which said center equipment tends to collect at a high speed.
[0159] The local equipment which carries out event record of the stream data obtained about the candidate for a monitor at the storage of storage capacity with which it was restricted on the network according to invention according to claim 29, As opposed to the data control equipment which performs management about the whereabouts of said stream data based on the stream data index information which includes the section about the event generating time of day and chart lasting time at the time of event record of said stream data being carried out in said storage, and said stream data index information A retrieval means to search the whereabouts of the stream data by which event record was carried out which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day, Based on the retrieval result about the whereabouts of the stream data by which event record was carried out which satisfies the retrieval conditions containing said time of day Since it constituted so that it might have center

equipment which obtains said stream data from said storage which recorded the stream data concerned, and collects the stream data about said candidate for a monitor Said center equipment is effective in the ability to search the stream data based on said event record which it becomes unnecessary to ask no storage on said network the whereabouts of the stream data based on said event record, and said center equipment tends to collect at a high speed.

[0160] According to invention according to claim 30, based on the stream data index information which contains the chart-lasting-time width of face before and behind the event generating time of day at the time of event record of the stream data being carried out, and the event generating time of day concerned in the storage on a network Since it constituted so that it might have data control equipment which performs said management about the whereabouts of stream data by which event record was carried out, said center equipment It is effective in the ability to search and collect the stream data based on said event record which it is going to collect at a high speed based on said chart-lasting-time width of face before and behind said event generating time of day and the event generating time of day concerned etc.

[0161] Were recorded on the storage concerned by using the storage of the limited storage capacity for endless according to invention according to claim 31. The stream data which is continuing in time to the storage for evacuation conservation The evacuation conservation means which records and carries out evacuation conservation, [re-] The header information which described the attribute of stream data, and the identifier and class of said stream data, The evacuation conservation management tool which manages said re-recorded stream data by evacuation conservation management information, such as said header information and a reference pointer to said stream data substance which carried out evacuation conservation, Based on stream data index information including the chart-lasting-time section at the time of said said re-recorded stream data being endlessly recorded on said storage The data control equipment which performs management about the whereabouts of said stream data currently re-recorded on said storage for evacuation conservation, A retrieval means to search the whereabouts about said storage for evacuation conservation which is re-recording the stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information, Since it constituted so that it might have center equipment which acquires and collects stream data from said storage for evacuation conservation which re-recorded the stream data concerned based on the retrieval result by this retrieval means Said center equipment searches the whereabouts about said storage for evacuation conservation of the stream data which it is going to collect and by which endless record was carried out at a high speed based on retrieval conditions including said time amount section, and is effective in said stream data being efficiently collectable.

[0162] According to invention according to claim 32, to storage the stream data by which event record was carried out and which was obtained about the candidate for a monitor to the storage for evacuation conservation The evacuation conservation means which records and carries out evacuation conservation, [re-] The header information which described the attribute of the stream data concerned for said stream data re-recorded with this evacuation conservation means, The evacuation conservation management tool managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation, Based on the stream data index information containing the event generating time of day and chart-lasting-time width of face at the time of event record of said said re-recorded stream data being carried out at said storage The data control equipment which performs management about the whereabouts of said said stream data currently re-recorded, A retrieval means to search the whereabouts about said storage for evacuation conservation of the stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information, Since it constituted so that it might have center equipment which collects stream data from said storage for evacuation conservation based on the retrieval result with which are satisfied of these retrieval conditions, said center equipment The whereabouts about said storage for evacuation conservation of said stream data based on the event record which it is going to collect is searched at a high speed based on retrieval conditions including said time amount section, and it is effective in said stream data being efficiently collectable.

[0163] The time-of-day agreement means for unifying the time of day on a network according to invention according to claim 33, The data control equipment which manages the whereabouts of the stream data currently recorded on the storage on said network using stream data index information based on the time of day unification-ized with said time-of-day agreement means, A retrieval means to search the whereabouts of stream data which satisfies said retrieval conditions to said stream data index information based on retrieval conditions including the assignment by said

unification-ized time of day, Since it constituted so that it might have center equipment which acquires the retrieval result about the whereabouts of stream data which satisfies retrieval conditions including the assignment by said unification-ized time of day, said center equipment the whereabouts about said storage of said stream data which it is going to collect -- said -- **** -- it searches at a high speed based on retrieval conditions including the assignment by the time of day-izing [time of day] and managed, and is effective in said stream data being efficiently collectable.
[0164] According to invention according to claim 34, deliver and receive the current time information about the time of day currently used in the processing of stream data performed, respectively on the network on said network. A time-of-day difference measurement means to measure the time-of-day difference generated between the current time information concerned at the time of performing said transfer, A correction value operation means to have delivered and received said current time information on said network, while to set and to calculate the correction value about the time of day currently used by processing of said stream data based on said said measured time-of-day difference, The data control equipment which manages the correction value which said correction value operation means calculated based on the stream data index information on the stream data currently recorded on the storage on said network while managing the whereabouts of said stream data, The time of day specified as retrieval conditions and the time of day in a retrieval result are amended based on said correction value to said stream data index information. A retrieval means to search the whereabouts of stream data which satisfies said retrieval conditions, Since it constituted so that it might have center equipment which collects the stream data with which it is satisfied of said retrieval conditions based on the retrieval result of said stream data index information about the whereabouts of the stream data amended when retrieval was performed by this retrieval means from said storage Based on the retrieval result about the whereabouts of said stream data amended by said correction value also under the condition that the difference has arisen about the time of day currently used in the processing of stream data performed by distributing said center equipment on said network It is effective in stream data with a high precision being collectable.
[0165] According to invention according to claim 35, based on the retrieval result of the amended stream data index information which center equipment acquired The center equipment concerned gets to know the time difference between media produced between said storage at the time of acquiring said stream data from the storage which recorded the stream data with which are satisfied of retrieval conditions. Since it constituted so that the stream data concerned might be acquired and collected from said storage which recorded the stream data with which are satisfied of the retrieval conditions amended based on the time difference between the media concerned Also under the condition that the difference has arisen between the time of day currently used in said storage Said center equipment can search and know the whereabouts of said stream data which satisfies said amended retrieval conditions about said storage, and has the effect it is collectable [stream data with a high precision] ineffective.
[0166] The time-of-day agreement means for unifying the time of day on a network according to invention according to claim 36, The evacuation conservation management tool which manages the stream data re-recorded with the evacuation conservation means based on said unified time of day, The data control equipment which manages the whereabouts of the stream data currently re-recorded on the storage for evacuation conservation using the stream data index information based on said unification-ized time of day, A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned to said stream data index information based on retrieval conditions including the assignment by said unification-ized time of day about the storage for evacuation conservation, Since it constituted so that it might have center equipment which acquires the retrieval result about the whereabouts of stream data which satisfies retrieval conditions including the assignment by said unification-ized time of day, and collects the stream data concerned from the storage for evacuation conservation Said center equipment is searched and got to know at a high speed based on retrieval conditions including assignment according the whereabouts about said storage for evacuation conservation of the stream data which it is going to collect to said unification-ized time of day, and is effective in said stream data being efficiently collectable.
[0167] According to invention according to claim 37, deliver and receive the current time information about the time of day currently used in the processing of stream data which distributes on a network and is performed, respectively on said network. A time-of-day difference measurement means to measure the time-of-day difference generated between the current time information concerned at the time of delivering and receiving, A correction value operation means to have delivered and received said current time information on said network, while to set and to calculate the correction value about the time of day currently used by processing of said stream data based on said said measured time-of-day difference, The data control equipment which manages the correction value calculated with said correction value

operation means based on the stream data index information on the stream data currently re-recorded on the storage for evacuation conservation while managing the whereabouts of said stream data, The time of day specified as retrieval conditions and the time of day in a retrieval result are amended to said stream data index information based on said correction value managed with said data control equipment. A retrieval means to search the whereabouts about said storage for evacuation conservation of the stream data with which are satisfied of said retrieval conditions, Based on the retrieval result of said stream data index information about the whereabouts of said stream data amended when retrieval was performed by this retrieval means Since it constituted so that it might have center equipment which collects stream data from said storage for evacuation conservation, said center equipment Also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on said network The retrieval result in the condition that it does not make said time-of-day difference can be known by amending with said correction value, the whereabouts of exact stream data after taking into consideration said time-of-day difference is acquired, and it is effective in stream data being efficiently collectable.

[0168] Since according to invention according to claim 38 it constituted based on the time-of-day difference including the transmission-time difference by the transmission time taken to deliver and receive current time information so that a correction value operation means might calculate correction value Said center equipment is amending with said correction value including the transmission-time difference by said transmission time also under the condition the time-of-day difference's having arisen at the time of day currently used in the processing of stream data performed by distributing on a network. The retrieval result in the condition that it does not make said time-of-day difference can be known, the whereabouts of exact stream data after taking into consideration said transmission time-of-day difference is acquired, and it is effective in said stream data being efficiently collectable.

[0169] According to invention according to claim 39, based on the retrieval result of the amended stream data index information Center equipment gets to know the time difference between media produced between said storage for evacuation conservation at the time of acquiring said stream data from the storage for evacuation conservation which recorded the stream data with which are satisfied of retrieval conditions. Since it constituted so that the stream data concerned might be acquired from said storage for evacuation conservation which recorded the stream data with which are satisfied of the retrieval conditions amended based on the time difference between the media concerned Also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on a network, said center equipment The whereabouts of exact stream data after taking into consideration the time difference between said media is acquired, and it is effective in said accurate stream data being efficiently collectable.

[0170] The chart-lasting-time width of face of the stream data which is endlessly recorded on the storage on a network according to invention according to claim 40, The data control equipment which manages the whereabouts of said stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc., A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information, Since it constituted so that it might have center equipment which acquires the stream data with which are satisfied of said retrieval conditions from said storage based on the retrieval result of said stream data index information that said retrieval conditions are satisfied Said center equipment has the effect which can know the stream data currently recorded on said storage, searches the stream data which it is going to collect at a high speed, and can be efficiently collected from said time of day of said retrieval conditions etc.

[0171] According to invention according to claim 41, stream data index information is received. A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions and current time containing the time of day and the time width of face which specify stream data, Based on the retrieval result about the whereabouts of the stream data containing the recording start time of day and record end time of the stream data with which are satisfied of said retrieval conditions Since it constituted so that it might have center equipment which acquires the stream data with which are satisfied of said retrieval conditions from storage, said center equipment From the retrieval result about the whereabouts of the stream data containing the recording start time of day which searched by time of day, and said said time width of face and said current time of said retrieval conditions, and was acquired, and record end time The stream data currently recorded on said storage can be known, and it is effective in searching the stream data which it is going to collect at a high speed, and being able to collect it efficiently.

[0172] Recording start time of day and record end time of stream data with which it is satisfied of retrieval conditions according to invention according to claim 42, And based on the retrieval result about the whereabouts of the stream data containing the endless chart-lasting-time width of face of the storage which recorded the stream data with which are satisfied of said retrieval conditions Since it constituted so that it might have center equipment which acquires the stream data with which are satisfied of said retrieval conditions from said storage, said center equipment From the retrieval result about the whereabouts of said recording start time of day, said record end time, and the stream data containing said endless chart-lasting-time width of face The stream data currently recorded at present can be known and it is effective in searching the stream data which it is going to collect at a high speed, and being able to collect it efficiently.

[0173] The chart-lasting-time width of face of the stream data by which endless record is carried out at the storage on a network according to invention according to claim 43, The data control equipment which manages the whereabouts of each of said stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc., A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned to said stream data index information by making the generating means of said stream data, data-processing format of said stream data, etc. into retrieval conditions, Since it constituted so that it might have center equipment which acquires the stream data with which are satisfied of said retrieval conditions from said storage based on the retrieval result of said stream data index information It becomes unnecessary for said center equipment to ask no storage on said network the whereabouts of the stream data currently recorded on said storage. It is effective in searching the stream data which it is going to collect at a high speed, and being able to collect it efficiently from retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data.

[0174] The chart-lasting-time width of face before and behind the event generating time of day for every storage which carried out event record of the stream data according to invention according to claim 44, and the event generating time of day concerned, Recording start time of day and record end time of the information about the event itself, such as an event identifier and a type, and said event record, The data control equipment which manages the whereabouts of the event record stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc., A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information, Since it constituted so that it might have center equipment which acquires stream data from said storage based on the retrieval result about the whereabouts of stream data which satisfies said retrieval conditions It becomes unnecessary for said center equipment to ask no storage on said network the whereabouts of the stream data based on said event record. It is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions containing said stream data index information and said time of day.

[0175] A retrieval means to carry out a pair necropsy funiculus to stream data index information based on the retrieval conditions which include the time amount section of said event record for the whereabouts of the stream data by which event record is carried out according to invention according to claim 45, The retrieval result about the whereabouts of the stream data with which all or a part of event chart lasting time is contained at said time amount section of the event record in said retrieval conditions is acquired. Since it constituted so that it might have center equipment which acquires stream data from storage based on said acquired retrieval result, said center equipment It becomes unnecessary to ask no storage on said network the whereabouts of the stream data with which all or a part of event chart lasting time is contained at said time amount section. It is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions containing said stream data index information and said time of day.

[0176] The chart-lasting-time width of face before and behind the event generating time of day for every storage which carried out event record of the stream data according to invention according to claim 46, and the event generating time of day concerned, Recording start time of day and record end time of the information about the event itself, such as an event identifier and a type, and said event record, The data control equipment which manages the whereabouts of the event record stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc., The information about the event itself, such as said event identifier, said type, etc., A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions

concerned based on retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data, Since it constituted so that it might have center equipment which acquires the retrieval result about the whereabouts of stream data which satisfies said retrieval conditions, and collects stream data from said storage It becomes unnecessary for said center equipment to ask no storage on said network the whereabouts of said stream data. It is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from said stream data index information and said retrieval conditions.

[0177] The generating means [according to invention according to claim 47] of the stream data based on endless record, The data-processing format of said stream data, a type, the local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on the storage for evacuation conservation, And the conservation evacuation identifier to the reference pointer which specifies the header information concerned, and the stream data based on the endless record re-recorded on the media for evacuation conservation, Based on the stream data index information by the difference in the distinction information on the media for evacuation conservation and said endless record of said stream data, or event record etc. The data control equipment which manages the whereabouts about said storage for evacuation conservation of stream data, A retrieval means to search the whereabouts about said storage for evacuation conservation of said stream data with which it is satisfied of the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information, Since it constituted so that it might have center equipment which acquires the retrieval result about the whereabouts about said storage for evacuation conservation of said stream data with which are satisfied of said retrieval conditions It becomes unnecessary for said center equipment to ask no storage for evacuation conservation on said network the whereabouts of said stream data. It is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions containing said stream data index information and said time of day.

[0178] According to invention according to claim 48, stream data index information is received. A retrieval means to search the whereabouts about the storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies the stream data by which endless record was carried out, Since it constituted so that it might have center equipment which acquires the whereabouts about said storage for evacuation conservation of stream data based on the recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions It becomes unnecessary for said center equipment to ask no storage for evacuation conservation on said network the whereabouts of said stream data. It is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from retrieval conditions including said stream data index information and said time amount section, or current time.

[0179] The generating means [according to invention according to claim 49] of the stream data based on endless record, The data-processing format of said stream data, the local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on the storage for evacuation conservation, And the conservation evacuation identifier to the stream data based on the endless record re-recorded on the reference pointer and the storage for evacuation conservation which specify the header information concerned, As opposed to the stream data index information by the type in which the difference in the distinction information on the storage for evacuation conservation and said endless record of said stream data, or event record is shown The generating means of stream data, the data-processing format of stream data, A retrieval means to search the whereabouts about the storage for evacuation conservation of stream data which satisfies the retrieval conditions concerned by making into retrieval conditions the local equipment with which stream data was obtained, The retrieval result about the storage for evacuation conservation of the stream data with which are satisfied of said retrieval conditions is acquired. Since it constituted so that it might have center equipment which collects the stream data with which are satisfied of said acquired retrieval conditions from the storage for evacuation conservation, said center equipment It becomes unnecessary to ask no storage for evacuation conservation on said network the whereabouts of said stream data, and is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from said stream data index information and said retrieval conditions.

[0180] The evacuation conservation identifier to the stream data based on the event record which was re-recorded on the storage for evacuation conservation according to invention according to claim 50, the distinction information on the storage for evacuation conservation, and the class of said stream data -- and The data control equipment which manages

the whereabouts about said storage for evacuation conservation of said stream data based on the stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on the storage for evacuation conservation etc., A retrieval means to search the whereabouts about said storage for evacuation conservation of the stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information, Since it constituted so that it might have center equipment which acquires and collects the stream data concerned from the storage for evacuation conservation based on the whereabouts about said storage for evacuation conservation of the stream data with which are satisfied of said acquired retrieval conditions It becomes unnecessary for said center equipment to ask no storage for evacuation conservation on said network the whereabouts of said stream data. It is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions containing said stream data index information and said time of day.

[0181] A retrieval means to search the whereabouts about the storage for evacuation conservation of stream data based on the retrieval conditions and current time which include the time amount section which specifies stream data to stream data index information according to invention according to claim 51, Since it constituted so that it might have center equipment which acquires the whereabouts of stream data about the storage for evacuation conservation based on the recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions It becomes unnecessary for said center equipment to ask no storage for evacuation conservation on said network the whereabouts of said stream data. From the recording start time of day of said stream data and record end time with which are satisfied of the retrieval result at the time of searching based on retrieval conditions including said time amount section, or said current time, the stream data which it is going to collect is searched at a high speed, and there is an efficiently collectable effect.

[0182] The generating means [according to invention according to claim 52] of the stream data based on event record, The data-processing format of said stream data, an event identifier, a type, As opposed to header information including the chart-lasting-time section of said stream data currently re-recorded on the local equipment with which said stream data was obtained, and the storage for evacuation conservation The generating means of stream data, the data-processing format of stream data, A retrieval means to search the whereabouts about the storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned by making into retrieval conditions the local equipment with which an event identifier, a type, or stream data was obtained, The whereabouts about the storage for evacuation conservation of said stream data which satisfies said retrieval conditions is acquired from said retrieval result. Since it constituted so that it might have center equipment which acquires and collects the stream data concerned from the storage for evacuation conservation based on said acquired whereabouts, said center equipment It becomes unnecessary to ask no storage for evacuation conservation on said network the whereabouts of said stream data, and is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from said header information and said retrieval conditions.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

TECHNICAL FIELD

[The technical field to which invention belongs] This invention relates to the acquisition method and supervisory equipment for transmitting the image and voice stream data from a surveillance camera, a microphone, etc. obtained by the local equipment distributed and arranged on a network through said network to the center equipment which performs a remote monitor, for example, performing monitor business in security, a plant operation control, facility facility management, etc.

[Translation done.]

PRIOR ART

[Description of the Prior Art] Drawing 15 is the block diagram showing the configuration of the conventional supervisory equipment which connected in the network the local equipment which performs an image entry of data and are recording, and center equipment. drawing -- setting -- 1 -- local equipment and 2 -- center equipment and 5 -- a network and 6 -- for input data are recording and a read-out means, and 9, as for a data-processing means and 13, means of communications and 10 are [an indicating equipment and 7 / a data input means and 8 / endless record data and 14] event record data.

[0003] Next, actuation is explained. After the data input means 7 inputs and digitizes the image and voice data from a camera or a microphone with this local equipment 1, An image MJPEG (Motion Joint Photographic Coding Experts Group) and MPEG (Motion Picture Experts Group), Voice is encoded by PCM (Pulse Codo Modulation), ADPCM (Adaptive Differential Pulse Code Modulation), etc. While input data are recording and the read-out means 8 record the coded data on storage, such as a hard disk, as stream data [****] in time, said recorded stream data is read according to the demand from center equipment. The stream data by which reading appearance was carried out is transmitted to center equipment 2 by means of communications 9 through a network 5, and the means of communications 11 of center equipment 2 receives said stream data. The stream data received in center equipment 2 is decoded with the data-processing means 10, it is displayed on a display 6 or processing of image recognition etc. is performed.

[0004] thus -- although stream data is recorded with local equipment 1 and it is transmitted to center equipment 2 if needed -- data, such as an image and voice, -- measurement data etc. and a ratio -- since the amount of BEDETA becomes huge, with input data are recording and the read-out means 8, it divides roughly and two kinds of data is recorded. Drawing 16 and drawing 17 are explanatory drawings for explaining this recording method, and, for an endless recording table and 16, as for endless record substance data and 18, an endless record index table and 17 are [15 / an event recording table and 19] event record substance files in drawing. Endless record records the newest input data of a certain fixed time amount on endless, and overwrites the newest data in order [data / old] in ring buffer format. Although chart-lasting-time width of face is comparatively short to endless record, there is also timelapse record which carries out long duration record at the gap which 1 frames-per-second degree thinned out in addition to what is recorded by the high frame rate which is 30 frames-per-second degree among them.

[0005] Moreover, as for ejection and the endless record data 13, the event record data 14 stores independently the data before and behind event generating time of day from the endless record data 13 or the data into which it is inputted from the data input means 7, when input data are recording and the read-out means 8 receive the event alert from the sensing equipment which is not illustrated. Although event record also has a limit of the number and sequential elimination is carried out from an old thing or the low thing of priority, rear-spring-supporter record of the important data is carried out from endless record of a high frame rate at a long time.

[0006] When requiring the stream data recorded from center equipment 2, the time amount section from five quotas to current time called 1996.12.25.13:20:00 to 1996.12.25.13:25:00 can be specified, or the identification number (ID) and event classification of an event can be specified and searched.

[Translation done.]

EFFECT OF THE INVENTION

[Effect of the Invention] As mentioned above, according to invention according to claim 1, the stream data obtained about the candidate for a monitor is memorized to the media of the storage capacity restricted on the network. The stream data index information about the whereabouts of said stream data currently recorded on said media is intensively managed on said network. Retrieve said stream data index information managed intensively based on retrieval conditions, and the retrieval result about the whereabouts of stream data is obtained. By acquiring the whereabouts of stream data which satisfies said retrieval conditions according to a stream data whereabouts acquisition process based on the retrieval result concerned Since it constituted so that said stream data might be acquired from said media which recorded the stream data concerned and the stream data about said candidate for a monitor might be collected The stream data which it becomes unnecessary to ask no media on said network the whereabouts of the stream data currently recorded, and is going to collect them is searched at a high speed, and there is an efficiently collectable effect.

[0132] According to invention according to claim 2, it is using the media of the limited storage capacity for endless, The stream data which was obtained about the candidate for a monitor and which is continuing in time is recorded on said media distributed on the network. Management about the whereabouts of said stream data is performed based on the stream data index information containing the chart-lasting-time width of face according to the storage capacity of said media at the time of said stream data being endlessly recorded on said media. The whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day is searched to said stream data index information. Since it constituted so that the retrieval result about the whereabouts of said stream data which satisfies said retrieval conditions might be acquired The stream data which can know the stream data currently recorded at present from said chart-lasting-time width of face, and it is going to collect also under the condition that said retrieval takes time amount is searched at a high speed, and there is an efficiently collectable effect.

[0133] According to invention according to claim 3, the stream data obtained about the candidate for a monitor Event record is carried out at the media of the limited storage capacity distributed on the network. Management about the whereabouts of said stream data is performed based on the stream data index information which includes the section about the event generating time of day and chart lasting time at the time of event record of said stream data being carried out in said media. Since it constituted so that the retrieval result with which the whereabouts of said stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day is searched to said stream data index information, and it is satisfied of said retrieval conditions might be acquired The stream data based on said event record which it becomes unnecessary to ask no media on said network the whereabouts of the stream data based on said event record, and is going to collect them is searched at a high speed, and there is an efficiently collectable effect.

[0134] Since it constituted so that management about the whereabouts of the event record stream data based on the stream data index information which contains the chart-lasting-time width of face before and behind the event generating time of day at the time of event record of the stream data being carried out and the event generating time of day concerned in the media distributed on the network might be performed according to invention according to claim 4 Based on said chart-lasting-time width of face before and behind said event generating time of day and the event generating time of day concerned etc., the stream data based on said event record which it is going to collect is searched at a high speed, and there is an efficiently collectable effect.

[0135] According to invention according to claim 5, it is using the media of the limited storage capacity for endless,

Re-record the stream data which was recorded on said media distributed on the network and which is continuing in time on the media for evacuation conservation, and evacuation conservation is carried out. The header information which described the attribute of stream data including the chart-lasting-time section at the time of recording said re-recorded stream data on said media of the stream data concerned endlessly, It manages by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information including the chart-lasting-time section at the time of said said re-recorded stream data being endlessly recorded on said media Management about the whereabouts of said said stream data currently re-recorded is performed. Search the whereabouts about said media for evacuation conservation which are re-recording the stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information including said chart-lasting-time section, and a retrieval result is acquired. Since it constituted so that the stream data with which are satisfied of said retrieval conditions might be acquired and collected from said media for evacuation conservation It is effective in the ability to search and collect the whereabouts about said media for evacuation conservation of the stream data which it is going to collect and by which endless record was carried out at a high speed based on retrieval conditions including said time amount section.

[0136] According to invention according to claim 6, the stream data obtained about the candidate for a monitor by which event record was carried out by the media distributed on the network according to the storage process is re-recorded on the media for evacuation conservation. The header information which described the attribute of the stream data containing the event generating time of day and chart-lasting-time width of face at the time of carrying out event record of said re-recorded stream data which carried out evacuation conservation at said media of the stream data concerned, It manages by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on the stream data index information containing the event generating time of day and chart-lasting-time width of face at the time of event record of said said re-recorded stream data being carried out at said media Management about the whereabouts of said said stream data currently re-recorded is performed. Search the whereabouts about said media for evacuation conservation which are re-recording the stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information, and a retrieval result is acquired. Since it constituted so that said stream data with which are satisfied of said retrieval conditions might be acquired and collected from said media for evacuation conservation based on said acquired retrieval result It is effective in the ability to search and collect the whereabouts about said media for evacuation conservation of said stream data based on the event record which it is going to collect at a high speed based on retrieval conditions including said time amount section.

[0137] It is stream data index information based on the time of day which unification-ized the whereabouts of the stream data which is recorded on the media distributed on the network according to invention according to claim 7. Manage and the whereabouts of stream data is searched to said stream data index information based on retrieval conditions including the assignment by said unification-ized time of day. Since it constituted so that the retrieval result about the whereabouts of stream data which satisfies said retrieval conditions might be acquired the whereabouts about said media of said stream data which it is going to collect -- said -- **** -- it searches at a high speed based on retrieval conditions including the assignment by the time of day-izing [time of day] and managed, and there is an efficiently collectable effect.

[0138] According to invention according to claim 8, deliver and receive the current time information about the time of day currently used in the processing of stream data performed by distributing on a network on said network. The time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information is measured. The correction value about the time of day currently used by processing of said stream data Delivered and received said current time information on said network, while it sets and asks based on said said measured time-of-day difference. The whereabouts and said calculated correction value of said stream data are managed based on the stream data index information on the stream data currently recorded on the media distributed on said network. The time of day specified as retrieval conditions and the time of day in a retrieval result are amended based on said said managed correction value to said stream data index information. The whereabouts of stream data which satisfies said retrieval conditions is searched. Since it constituted so that the stream data with which the retrieval result of said stream data index information about the whereabouts of the stream data amended when retrieval was

performed is acquired, and it is satisfied of said retrieval conditions might be acquired from said media Based on the retrieval result about the whereabouts of said stream data amended by said correction value also under the condition that the difference has arisen about the time of day currently used in the processing of stream data performed by distributing on said network, there is an effect it is collectable [stream data with a high precision] ineffective.
[0139] Since it constituted so that the stream data concerned may acquire from said media which recorded the stream data with which are satisfied of the retrieval conditions which got to know the time difference between media which has produced between said media at the time of acquiring said stream data from the media which recorded the stream data with which are satisfied of retrieval conditions based on the retrieval result of the amended stream data index information according to invention according to claim 9, and amended based on the time difference between the media concerned The whereabouts of said stream data which is satisfied also with the bottom of the condition that the difference has arisen of said amended retrieval conditions can be searched about said media, and the effect it is collectable [stream data with a high precision] ineffective is between the time of day currently used in said media.
[0140] According to invention according to claim 10, it manages based on the time of day which unified the stream data re-recorded on the media for evacuation conservation. The whereabouts of the stream data currently re-recorded on said media for evacuation conservation is managed using the stream data index information based on said unification-ized time of day. The whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions including the assignment by said unification-ized time of day is searched about the media for evacuation conservation to said stream data index information. Since it constituted so that the retrieval result about the whereabouts of stream data which satisfies retrieval conditions including the assignment by said unification-ized time of day might be acquired There is an effect which can be searched and collected at a high speed based on retrieval conditions including assignment according the whereabouts about said media for evacuation conservation of the stream data which it is going to collect to said unification-ized time of day.
[0141] According to invention according to claim 11, deliver and receive the current time information about the time of day currently used in the processing of stream data performed by distributing on a network on said network. The time-of-day difference generated between the current time information concerned at the time of delivering and receiving is measured. The correction value about the time of day currently used by processing of said stream data Delivered and received said current time information on said network based on said time-of-day difference, while it sets and asks. The whereabouts of said stream data is managed based on the stream data index information on the stream data currently re-recorded on the media for evacuation conservation. Furthermore manage said correction value and the time of day specified as said stream data index information as a pair necropsy wire rope affair and the time of day in a retrieval result are amended based on said correction value. The whereabouts about said media for evacuation conservation of the stream data with which are satisfied of said retrieval conditions is searched. Since the retrieval result of said stream data index information about the whereabouts of said stream data amended by said correction value was acquired, and it constituted so that the stream data with which are satisfied of said retrieval conditions might be acquired from said media for evacuation conservation based on said acquired retrieval result The whereabouts of exact stream data after being able to know the retrieval result in the condition that it does not make said time-of-day difference, by amending with said correction value and taking into consideration said time-of-day difference also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on a network is acquired, and it is effective in stream data being collectable.
[0142] Since according to invention according to claim 12 it constituted so that correction value might be calculated based on a time-of-day difference including the transmission-time difference by the transmission time taken to deliver and receive current time information, The whereabouts of exact stream data after being able to know the retrieval result in the condition that it does not make said time-of-day difference, by amending with said correction value including the transmission-time difference by said transmission time also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on a network and taking into consideration said time-of-day difference is acquired, and it is effective in stream data being collectable.
[0143] According to invention according to claim 13, based on the retrieval result of the amended stream data index information The time difference between media produced between said media for evacuation conservation at the time of acquiring said stream data from the media for evacuation conservation which recorded the stream data with which are satisfied of retrieval conditions is got to know. Since it constituted so that the stream data concerned might be acquired from said media for evacuation conservation which recorded the stream data with which it is satisfied of

retrieval conditions based on the time difference between the media concerned Also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on a network, the whereabouts of exact stream data after taking into consideration the time difference between said media is acquired, and it is effective in stream data being efficiently collectable.

[0144] The chart-lasting-time width of face of the stream data which is endlessly recorded on the media distributed on the network according to invention according to claim 14, The whereabouts of said stream data is managed based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc. Since it constituted so that the retrieval result with which the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day is searched to said stream data index information, and it is satisfied of said retrieval conditions might be acquired The stream data currently recorded from said time of day of said retrieval conditions etc. can be known, and it is effective in the ability to search the stream data which it is going to collect at a high speed.

[0145] Since it constituted so that the retrieval result about the whereabouts of the stream data containing the recording start time of day and the record end time of the stream data with which the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions and current time containing the time of day and the time width of face which specify stream data is searched to stream data index information, and it is satisfied of said retrieval conditions might be acquired according to invention according to claim 15 The stream data currently recorded can be known from the retrieval result about the whereabouts of the stream data containing the recording start time of day which searched by time of day, and said said time width of face and said current time of said retrieval conditions, and was acquired, and record end time, and it is effective in the ability to search the stream data which it is going to collect at a high speed.

[0146] Since it constituted so that the retrieval result about the whereabouts of the stream data containing the endless chart-lasting-time width of face of the media which recorded the stream data with which are satisfied of the recording start time of day, the record end time, and said retrieval conditions of the stream data with which are satisfied of retrieval conditions might be acquired according to invention according to claim 16 The stream data currently recorded at present can be known from the retrieval result about the whereabouts of said recording start time of day, said record end time, and the stream data containing said endless chart-lasting-time width of face, and it is effective in the ability to search the stream data which it is going to collect at a high speed.

[0147] The chart-lasting-time width of face of the stream data by which endless record is carried out at the media distributed on the network according to invention according to claim 17, The whereabouts of said stream data is managed based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc. Since it constituted so that the retrieval result with which the whereabouts of stream data which satisfies the retrieval conditions concerned by making the generating means of said stream data, data-processing format of said stream data, etc. into retrieval conditions is searched to said stream data index information, and it is satisfied of said retrieval conditions might be acquired It becomes unnecessary to ask no media on said network the whereabouts of the stream data currently recorded, and is effective in the ability to search the stream data which it is going to collect at a high speed from retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data.

[0148] The chart-lasting-time width of face before and behind the event generating time of day for every media which carried out event record of the stream data according to invention according to claim 18, and the event generating time of day concerned, Recording start time of day and record end time of the information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc. is managed. Since it constituted so that the retrieval result with which it searches based on the retrieval conditions containing time of day to said stream data index information, and is satisfied of said retrieval conditions might be acquired It is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions which it becomes unnecessary to ask no media on said network the whereabouts of the stream data based on said event record, and contain said stream data index information and said time of day.

[0149] Since it constituted so that the retrieval result about the whereabouts of the stream data with which all or a part of event chart lasting time is contained in stream data index information in the whereabouts of the stream data by which

event record is carried out at said time amount section of event record [in / pair necropsy funiculus / said retrieval conditions] based on retrieval conditions including the time amount section of said event record and by which event record is carried out might be acquired according to invention according to claim 19 It is effective in the ability to search the stream data based on said event record which it is going to collect at a high speed from the retrieval conditions which it becomes unnecessary to ask no media on said network the whereabouts of the stream data with which all or a part of event chart lasting time is contained at said time amount section, and contain said stream data index information and said time of day.

[0150] The chart-lasting-time width of face before and behind the event generating time of day for every media which carried out event record of the stream data according to invention according to claim 20, and the event generating time of day concerned, Recording start time of day and record end time of the information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc. is managed. The information about the event itself, such as said event identifier, said type, etc., Said stream data index information is retrieved based on retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data. Since it constituted so that the stream data with which are satisfied of said retrieval conditions might be acquired and collected from said media based on the retrieval result with which are satisfied of said retrieval conditions It is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions which it becomes unnecessary to ask no media on said network the whereabouts of said stream data, and contain said stream data index information and said time of day.

[0151] The generating means [according to invention according to claim 21] of the stream data based on endless record, The terminal with which the data-processing format of said stream data, a type, and said stream data were obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on the media for evacuation conservation, And the conservation evacuation identifier to the reference pointer which specifies the header information concerned, and the stream data based on the endless record re-recorded on the media for evacuation conservation, Based on the stream data index information by the difference in the distinction information on the media for evacuation conservation and said endless record of said stream data, or event record etc. Since it constituted so that the retrieval result with which the whereabouts about said media for evacuation conservation of said stream data is managed, and it searches based on the retrieval conditions containing time of day to said stream data index information, and is satisfied of said retrieval conditions might be acquired It is effective in the ability to search said stream data which it is going to collect at a high speed from the retrieval conditions which it becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and contain said stream data index information and said time of day.

[0152] Since it constituted so that the whereabouts about the media for evacuation conservation of stream data might be acquired from the recording start time of day with which it searches to stream data index information based on retrieval conditions and current time including the time amount section which specifies the stream data by which endless record was carried out, and is satisfied of said retrieval conditions, and record end time according to invention according to claim 22 It is effective in the ability to search said stream data which it is going to collect at a high speed from the retrieval conditions which it becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and include said stream data index information and said time amount section, or current time.

[0153] The generating means [according to invention according to claim 23] of the stream data based on endless record, The data-processing format of said stream data, the terminal with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on the media for evacuation conservation, And the conservation evacuation identifier to the reference pointer which specifies the header information concerned, and the stream data based on the endless record re-recorded on the media for evacuation conservation, Based on the stream data index information by the type in which the difference in the distinction information on the media for evacuation conservation and said endless record of said stream data, or event record is shown The whereabouts about said media for evacuation conservation of said stream data is managed. As opposed to said stream data index information The generating means of said stream data, Since it constituted so that the whereabouts about the media for evacuation conservation of stream data which satisfy the retrieval conditions

concerned by making into retrieval conditions the data-processing format of said stream data, the terminal with which said stream data was obtained might be searched It becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and is effective in the ability to search said stream data which it is going to collect at a high speed from said stream data index information and said retrieval conditions.
[0154] The evacuation conservation identifier to the stream data based on the event record which was re-recorded on the media for evacuation conservation according to invention according to claim 24, the distinction information on the media for evacuation conservation, and the class of said stream data -- and The whereabouts about said media for evacuation conservation of the stream data based on said event record is managed based on the stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on the media for evacuation conservation etc. The whereabouts about said media for evacuation conservation of the stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on the retrieval conditions containing time of day is searched to said stream data index information. Since it constituted so that the whereabouts about said media for evacuation conservation of the stream data with which are satisfied of said retrieval conditions might be acquired It is effective in the ability to search said stream data which it is going to collect at a high speed from the retrieval conditions which it becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and contain said stream data index information and said time of day.
[0155] Since it constituted so that the whereabouts of stream data might be acquired based on the recording start time of day and the record end time of stream data with which the whereabouts about the media for evacuation conservation of stream data which satisfy the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data is searched to stream data index information, and it is satisfied of said retrieval conditions according to invention according to claim 25 It is effective in the ability to search the stream data which it is going to collect at a high speed from the recording start time of day of stream data and record end time with which are satisfied of the retrieval conditions which it becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and include said time amount section.
[0156] The generating means [according to invention according to claim 26] of the stream data based on event record, The data-processing format of said stream data, an event identifier, a type, As opposed to header information including the chart-lasting-time section of the terminal with which said stream data was obtained, and said stream data currently re-recorded on the media for evacuation conservation The generating means of stream data, the data-processing format of stream data, The whereabouts about the media for evacuation conservation of said stream data which satisfy the retrieval conditions concerned by making into retrieval conditions the terminal with which an event identifier, a type, or stream data was obtained is searched. Since the whereabouts about the media for evacuation conservation of said stream data which satisfy said retrieval conditions was acquired, and it constituted so that stream data might be acquired and collected from the media for evacuation conservation based on the whereabouts of said stream data which satisfies said acquired retrieval conditions It becomes unnecessary to ask no media for evacuation conservation on said network the whereabouts of said stream data, and is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from said header information and said retrieval conditions.
[0157] Local equipment which has been distributed and arranged about the candidate for a monitor on said network which records the obtained stream data on the storage of storage capacity with which it was restricted on the network according to invention according to claim 27, The data control equipment which manages intensively the stream data index information about the whereabouts of said stream data currently recorded on said storage on said network, A retrieval means to retrieve said stream data index information managed intensively based on retrieval conditions, The center equipment which obtains stream data from said storage and collects the stream data about said candidate for a monitor based on the whereabouts of said stream data acquired by the retrieval result by this retrieval means, Since it constituted so that it might have the means of communications for transmitting and receiving various information, such as said stream data, on said network, said center equipment It becomes unnecessary to ask no storage on said network the whereabouts of the stream data currently recorded on said storage, and said retrieval means is effective in the ability to search the stream data which said center equipment tends to collect at a high speed.
[0158] According to invention according to claim 28, it is using the storage of the limited storage capacity for endless, The local equipment which records the stream data which was obtained about the candidate for a monitor, and which is continuing in time on said storage on a network, The data control equipment which performs management about the whereabouts of said stream data based on the stream data index information containing the chart-lasting-time width of

face according to the storage capacity of said storage at the time of said stream data being endlessly recorded on said storage on said network, respectively, A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information containing said chart-lasting-time width of face, Based on the whereabouts of said stream data acquired by the retrieval result about the whereabouts of said stream data which satisfies the retrieval conditions containing said time of day Since it constituted so that it might have center equipment which obtains said stream data from said storage, and collects the stream data about said candidate for a monitor Also under the condition that said retrieval takes time amount, said center equipment can know the stream data currently recorded at present from said chart-lasting-time width of face, and said retrieval means is effective in the ability to search the stream data which said center equipment tends to collect at a high speed.

[0159] Local equipment which carries out event record of the stream data obtained about the candidate for a monitor at the storage of storage capacity with which it was restricted on the network according to invention according to claim 29, As opposed to the data control equipment which performs management about the whereabouts of said stream data based on the stream data index information which includes the section about the event generating time of day and chart lasting time at the time of event record of said stream data being carried out in said storage, and said stream data index information A retrieval means to search the whereabouts of the stream data by which event record was carried out which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day, Based on the retrieval result about the whereabouts of the stream data by which event record was carried out which satisfies the retrieval conditions containing said time of day Since it constituted so that it might have center equipment which obtains said stream data from said storage which recorded the stream data concerned, and collects the stream data about said candidate for a monitor Said center equipment is effective in the ability to search the stream data based on said event record which it becomes unnecessary to ask no storage on said network the whereabouts of the stream data based on said event record, and said center equipment tends to collect at a high speed.

[0160] Since it constituted so that it might have data control equipment which performs said management about the whereabouts of stream data by which event record was carried out based on the stream data index information which contains the chart-lasting-time width of face before and behind the event generating time of day at the time of event record of the stream data being carried out, and the event generating time of day concerned in the storage on a network according to invention according to claim 30 Said center equipment is effective in the ability to search and collect the stream data based on said event record which it is going to collect at a high speed based on said chart-lasting-time width of face before and behind said event generating time of day and the event generating time of day concerned etc.

[0161] Were recorded on the storage concerned by using the storage of the limited storage capacity for endless according to invention according to claim 31. The stream data which is continuing in time to the storage for evacuation conservation The evacuation conservation means which records and carries out evacuation conservation, [re-] The header information which described the attribute of stream data, and the identifier and class of said stream data, The evacuation conservation management tool which manages said re-recorded stream data by evacuation conservation management information, such as said header information and a reference pointer to said stream data substance which carried out evacuation conservation, Based on stream data index information including the chart-lasting-time section at the time of said said re-recorded stream data being endlessly recorded on said storage The data control equipment which performs management about the whereabouts of said stream data currently re-recorded on said storage for evacuation conservation, A retrieval means to search the whereabouts about said storage for evacuation conservation which is re-recording the stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information, Since it constituted so that it might have center equipment which acquires and collects stream data from said storage for evacuation conservation which re-recorded the stream data concerned based on the retrieval result by this retrieval means Said center equipment searches the whereabouts about said storage for evacuation conservation of the stream data which it is going to collect and by which endless record was carried out at a high speed based on retrieval conditions including said time amount section, and is effective in said stream data being efficiently collectable.

[0162] The evacuation conservation means which according to invention according to claim 32 re-records the stream data by which event record was carried out, and which was obtained about the candidate for a monitor on the storage for evacuation conservation, and carries out evacuation conservation to storage, The header information which described the attribute of the stream data concerned for said stream data re-recorded with this evacuation conservation

means, The evacuation conservation management tool managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation, Based on the stream data index information containing the event generating time of day and chart-lasting-time width of face at the time of event record of said said re-recorded stream data being carried out at said storage The data control equipment which performs management about the whereabouts of said said stream data currently re-recorded, A retrieval means to search the whereabouts about said storage for evacuation conservation of the stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information, Since it constituted so that it might have center equipment which collects stream data from said storage for evacuation conservation based on the retrieval result with which are satisfied of these retrieval conditions, said center equipment The whereabouts about said storage for evacuation conservation of said stream data based on the event record which it is going to collect is searched at a high speed based on retrieval conditions including said time amount section, and it is effective in said stream data being efficiently collectable.

[0163] The time-of-day agreement means for unifying the time of day on a network according to invention according to claim 33, The data control equipment which manages the whereabouts of the stream data currently recorded on the storage on said network using stream data index information based on the time of day unification-ized with said time-of-day agreement means, A retrieval means to search the whereabouts of stream data which satisfies said retrieval conditions to said stream data index information based on retrieval conditions including the assignment by said unification-ized time of day, Since it constituted so that it might have center equipment which acquires the retrieval result about the whereabouts of stream data which satisfies retrieval conditions including the assignment by said unification-ized time of day, said center equipment the whereabouts about said storage of said stream data which it is going to collect -- said -- **** -- it searches at a high speed based on retrieval conditions including the assignment by the time of day-izing [time of day] and managed, and is effective in said stream data being efficiently collectable.

[0164] According to invention according to claim 34, deliver and receive the current time information about the time of day currently used in the processing of stream data performed, respectively on the network on said network. A time-of-day difference measurement means to measure the time-of-day difference generated between the current time information concerned at the time of performing said transfer, A correction value operation means to have delivered and received said current time information on said network, while to set and to calculate the correction value about the time of day currently used by processing of said stream data based on said said measured time-of-day difference, While managing the whereabouts of said stream data based on the stream data index information on the stream data currently recorded on the storage on said network The time of day specified as the data control equipment which manages the correction value which said correction value operation means calculated as retrieval conditions to said stream data index information, and the time of day in a retrieval result are amended based on said correction value. A retrieval means to search the whereabouts of stream data which satisfies said retrieval conditions, Since it constituted so that it might have center equipment which collects the stream data with which it is satisfied of said retrieval conditions based on the retrieval result of said stream data index information about the whereabouts of the stream data amended when retrieval was performed by this retrieval means from said storage Based on the retrieval result about the whereabouts of said stream data amended by said correction value also under the condition that the difference has arisen about the time of day currently used in the processing of stream data performed by distributing said center equipment on said network It is effective in stream data with a high precision being collectable.

[0165] According to invention according to claim 35, based on the retrieval result of the amended stream data index information which center equipment acquired The center equipment concerned gets to know the time difference between media produced between said storage at the time of acquiring said stream data from the storage which recorded the stream data with which are satisfied of retrieval conditions. Since it constituted so that the stream data concerned might be acquired and collected from said storage which recorded the stream data with which are satisfied of the retrieval conditions amended based on the time difference between the media concerned Also under the condition that the difference has arisen between the time of day currently used in said storage, said center equipment can search and know the whereabouts of said stream data which satisfies said amended retrieval conditions about said storage, and has the effect it is collectable [stream data with a high precision] ineffective.

[0166] The time-of-day agreement means for unifying the time of day on a network according to invention according to claim 36, The evacuation conservation management tool which manages the stream data re-recorded with the

evacuation conservation means based on said unified time of day, The data control equipment which manages the whereabouts of the stream data currently re-recorded on the storage for evacuation conservation using the stream data index information based on said unification-ized time of day, A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned to said stream data index information based on retrieval conditions including the assignment by said unification-ized time of day about the storage for evacuation conservation, Since it constituted so that it might have center equipment which acquires the retrieval result about the whereabouts of stream data which satisfies retrieval conditions including the assignment by said unification-ized time of day, and collects the stream data concerned from the storage for evacuation conservation Said center equipment is searched and got to know at a high speed based on retrieval conditions including assignment according the whereabouts about said storage for evacuation conservation of the stream data which it is going to collect to said unification-ized time of day, and is effective in said stream data being efficiently collectable.

[0167] According to invention according to claim 37, deliver and receive the current time information about the time of day currently used in the processing of stream data which distributes on a network and is performed, respectively on said network. A time-of-day difference measurement means to measure the time-of-day difference generated between the current time information concerned at the time of delivering and receiving, A correction value operation means to have delivered and received said current time information on said network, while to set and to calculate the correction value about the time of day currently used by processing of said stream data based on said said measured time-of-day difference, While managing the whereabouts of said stream data based on the stream data index information on the stream data currently re-recorded on the storage for evacuation conservation The data control equipment which manages the correction value calculated with said correction value operation means, The time of day specified as retrieval conditions and the time of day in a retrieval result are amended to said stream data index information based on said correction value managed with said data control equipment. A retrieval means to search the whereabouts about said storage for evacuation conservation of the stream data with which are satisfied of said retrieval conditions, Based on the retrieval result of said stream data index information about the whereabouts of said stream data amended when retrieval was performed by this retrieval means Since it constituted so that it might have center equipment which collects stream data from said storage for evacuation conservation, said center equipment Also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on said network The retrieval result in the condition that it does not make said time-of-day difference can be known by amending with said correction value, the whereabouts of exact stream data after taking into consideration said time-of-day difference is acquired, and it is effective in stream data being efficiently collectable.

[0168] Since according to invention according to claim 38 it constituted based on the time-of-day difference including the transmission-time difference by the transmission time taken to deliver and receive current time information so that a correction value operation means might calculate correction value, Said center equipment is amending with said correction value including the transmission-time difference by said transmission time also under the condition the time-of-day difference's having arisen at the time of day currently used in the processing of stream data performed by distributing on a network. The retrieval result in the condition that it does not make said time-of-day difference can be known, the whereabouts of exact stream data after taking into consideration said transmission time-of-day difference is acquired, and it is effective in said stream data being efficiently collectable.

[0169] According to invention according to claim 39, based on the retrieval result of the amended stream data index information Center equipment gets to know the time difference between media produced between said storage for evacuation conservation at the time of acquiring said stream data from the storage for evacuation conservation which recorded the stream data with which are satisfied of retrieval conditions. Since it constituted so that the stream data concerned might be acquired from said storage for evacuation conservation which recorded the stream data with which are satisfied of the retrieval conditions amended based on the time difference between the media concerned Also under the condition that the time-of-day difference has arisen at the time of day currently used in the processing of stream data performed by distributing on a network, said center equipment acquires the whereabouts of exact stream data after taking into consideration the time difference between said media, and is effective in said accurate stream data being efficiently collectable.

[0170] The chart-lasting-time width of face of the stream data which is endlessly recorded on the storage on a network according to invention according to claim 40, The data control equipment which manages the whereabouts of said stream data based on stream data index information including the generating means of said stream data, the data-

processing format of said stream data, etc., A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information, Since it constituted so that it might have center equipment which acquires the stream data with which are satisfied of said retrieval conditions from said storage based on the retrieval result of said stream data index information that said retrieval conditions are satisfied Said center equipment has the effect which can know the stream data currently recorded on said storage, searches the stream data which it is going to collect at a high speed, and can be efficiently collected from said time of day of said retrieval conditions etc.

[0171] According to invention according to claim 41, stream data index information is received. A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions and current time containing the time of day and the time width of face which specify stream data, Since it constituted so that it might have center equipment which acquires the stream data with which are satisfied of said retrieval conditions from storage based on the retrieval result about the whereabouts of the stream data containing the recording start time of day and record end time of the stream data with which are satisfied of said retrieval conditions Said center equipment has the effect which can know the stream data currently recorded on said storage, searches the stream data which it is going to collect at a high speed, and can be efficiently collected from the retrieval result about the whereabouts of the stream data containing the recording start time of day which searched by time of day, and said said time width of face and said current time of said retrieval conditions, and was acquired, and record end time.

[0172] Since it constituted so that it might have center equipment which acquires the stream data with which are satisfied of said retrieval conditions from said storage based on the retrieval result about the whereabouts of the stream data containing the endless chart-lasting-time width of face of the storage which recorded the stream data with which are satisfied of the recording start time of day, the record end time, and said retrieval conditions of the stream data with which are satisfied of retrieval conditions according to invention according to claim 42 Said center equipment has the effect which can know the stream data currently recorded at present, searches the stream data which it is going to collect at a high speed, and can be efficiently collected from the retrieval result about the whereabouts of said recording start time of day, said record end time, and the stream data containing said endless chart-lasting-time width of face.

[0173] The chart-lasting-time width of face of the stream data by which endless record is carried out at the storage on a network according to invention according to claim 43, The data control equipment which manages the whereabouts of each of said stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc., A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned to said stream data index information by making the generating means of said stream data, data-processing format of said stream data, etc. into retrieval conditions, Since it constituted so that it might have center equipment which acquires the stream data with which are satisfied of said retrieval conditions from said storage based on the retrieval result of said stream data index information It becomes unnecessary for said center equipment to ask no storage on said network the whereabouts of the stream data currently recorded on said storage, and it is effective in searching the stream data which it is going to collect at a high speed, and being able to collect it efficiently from retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data.

[0174] The chart-lasting-time width of face before and behind the event generating time of day for every storage which carried out event record of the stream data according to invention according to claim 44, and the event generating time of day concerned, Recording start time of day and record end time of the information about the event itself, such as an event identifier and a type, and said event record, The data control equipment which manages the whereabouts of the event record stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc., A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information, Since it constituted so that it might have center equipment which acquires stream data from said storage based on the retrieval result about the whereabouts of stream data which satisfies said retrieval conditions Said center equipment is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions which it becomes unnecessary to ask no storage on said network the whereabouts of the stream data based on said event record, and contain said stream data index information and said time of day.

[0175] A retrieval means to carry out a pair necropsy funiculus to stream data index information based on the retrieval

conditions which include the time amount section of said event record for the whereabouts of the stream data by which event record is carried out according to invention according to claim 45, The retrieval result about the whereabouts of the stream data with which all or a part of event chart lasting time is contained at said time amount section of the event record in said retrieval conditions is acquired. Since it constituted so that it might have center equipment which acquires stream data from storage based on said acquired retrieval result Said center equipment is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions which it becomes unnecessary to ask no storage on said network the whereabouts of the stream data with which all or a part of event chart lasting time is contained at said time amount section, and contain said stream data index information and said time of day.

[0176] The chart-lasting-time width of face before and behind the event generating time of day for every storage which carried out event record of the stream data according to invention according to claim 46, and the event generating time of day concerned, Recording start time of day and record end time of the information about the event itself, such as an event identifier and a type, and said event record, The data control equipment which manages the whereabouts of the event record stream data based on stream data index information including the generating means of said stream data, the data-processing format of said stream data, etc., The information about the event itself, such as said event identifier, said type, etc., A retrieval means to search the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data, Since it constituted so that it might have center equipment which acquires the retrieval result about the whereabouts of stream data which satisfies said retrieval conditions, and collects stream data from said storage It becomes unnecessary for said center equipment to ask no storage on said network the whereabouts of said stream data, and it is effective in searching the stream data based on said event record which it is going to collect at a high speed, and being able to collect it efficiently from said stream data index information and said retrieval conditions.

[0177] The generating means [according to invention according to claim 47] of the stream data based on endless record, The data-processing format of said stream data, a type, the local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on the storage for evacuation conservation, And the conservation evacuation identifier to the reference pointer which specifies the header information concerned, and the stream data based on the endless record re-recorded on the media for evacuation conservation, Based on the stream data index information by the difference in the distinction information on the media for evacuation conservation and said endless record of said stream data, or event record etc. The data control equipment which manages the whereabouts about said storage for evacuation conservation of stream data, A retrieval means to search the whereabouts about said storage for evacuation conservation of said stream data with which it is satisfied of the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information, Since it constituted so that it might have center equipment which acquires the retrieval result about the whereabouts about said storage for evacuation conservation of said stream data with which are satisfied of said retrieval conditions Said center equipment is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions which it becomes unnecessary to ask no storage for evacuation conservation on said network the whereabouts of said stream data, and contain said stream data index information and said time of day.

[0178] According to invention according to claim 48, stream data index information is received. A retrieval means to search the whereabouts about the storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies the stream data by which endless record was carried out, Since it constituted so that it might have center equipment which acquires the whereabouts about said storage for evacuation conservation of stream data based on the recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions Said center equipment is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions which it becomes unnecessary to ask no storage for evacuation conservation on said network the whereabouts of said stream data, and include said stream data index information and said time amount section, or current time.

[0179] The generating means [according to invention according to claim 49] of the stream data based on endless record, The data-processing format of said stream data, the local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on the storage

for evacuation conservation, And the conservation evacuation identifier to the stream data based on the endless record re-recorded on the reference pointer and the storage for evacuation conservation which specify the header information concerned, As opposed to the stream data index information by the type in which the difference in the distinction information on the storage for evacuation conservation and said endless record of said stream data, or event record is shown The generating means of stream data, the data-processing format of stream data, A retrieval means to search the whereabouts about the storage for evacuation conservation of stream data which satisfies the retrieval conditions concerned by making into retrieval conditions the local equipment with which stream data was obtained, Since the retrieval result about the storage for evacuation conservation of the stream data with which are satisfied of said retrieval conditions was acquired, and it constituted so that it might have center equipment which collects the stream data with which are satisfied of said acquired retrieval conditions from the storage for evacuation conservation It becomes unnecessary for said center equipment to ask no storage for evacuation conservation on said network the whereabouts of said stream data, and it is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from said stream data index information and said retrieval conditions.

[0180] The evacuation conservation identifier to the stream data based on the event record which was re-recorded on the storage for evacuation conservation according to invention according to claim 50, the distinction information on the storage for evacuation conservation, and the class of said stream data -- and The data control equipment which manages the whereabouts about said storage for evacuation conservation of said stream data based on the stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on the storage for evacuation conservation etc., A retrieval means to search the whereabouts about said storage for evacuation conservation of the stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on the retrieval conditions containing time of day to said stream data index information, Since it constituted so that it might have center equipment which acquires and collects the stream data concerned from the storage for evacuation conservation based on the whereabouts about said storage for evacuation conservation of the stream data with which are satisfied of said acquired retrieval conditions Said center equipment is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from the retrieval conditions which it becomes unnecessary to ask no storage for evacuation conservation on said network the whereabouts of said stream data, and contain said stream data index information and said time of day.

[0181] Since it constituted so that it may have center equipment which acquires the whereabouts of stream data about the storage for evacuation conservation based on a retrieval means search the whereabouts about the storage for evacuation conservation of stream data based on retrieval conditions and current time including the time-amount section which specifies stream data, and the recording start time of day and the record end time of stream data with which are satisfied of said retrieval conditions to stream data index information according to invention according to claim 51 From the recording start time of day of said stream data and the record end time with which are satisfied of the retrieval result at the time of searching based on the retrieval conditions which it becomes unnecessary to ask no storage for evacuation conservation on said network the whereabouts of said stream data, and include said time-amount section, or said current time, said center equipment searches the stream data which it is going to collect at a high speed, and has an efficiently collectable effect.

[0182] The generating means [according to invention according to claim 52] of the stream data based on event record, The data-processing format of said stream data, an event identifier, a type, As opposed to header information including the chart-lasting-time section of said stream data currently re-recorded on the local equipment with which said stream data was obtained, and the storage for evacuation conservation The generating means of stream data, the data-processing format of stream data, A retrieval means to search the whereabouts about the storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned by making into retrieval conditions the local equipment with which an event identifier, a type, or stream data was obtained, Since the whereabouts about the storage for evacuation conservation of said stream data which satisfies said retrieval conditions was acquired from said retrieval result, and it constituted so that it might have center equipment which acquires and collects the stream data concerned from the storage for evacuation conservation based on said acquired whereabouts It becomes unnecessary for said center equipment to ask no storage for evacuation conservation on said network the whereabouts of said stream data, and it is effective in searching said stream data which it is going to collect at a high speed, and being able to collect it efficiently from said header information and said retrieval conditions.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] Since a conventional acquisition method and supervisory equipment are constituted as mentioned above When [which is related with the stream data which specified the time amount section] it asks, for example, endless chart-lasting-time width of face differs with each local equipment 1 As opposed to inquiry what kind of stream data exists in the assignment time amount section in full-local equipment 1 For the whereabouts check of said stream data, center equipment 2 had to be asked to all the corresponding local equipments 1, and when much local equipments were connected, it had the technical problem to which retrieval speed becomes slow each time. [0008] While it was made in order that this invention might solve the above technical problems, and searching the whereabouts of the stream data currently recorded at a high speed and being able to collect efficiently, also when the difference has arisen on the network at the time of day managed, it aims at obtaining the acquisition method and supervisory equipment which can perform high retrieval of precision.

[Translation done.]

MEANS

[Means for Solving the Problem] A acquisition method concerning invention according to claim 1 Stream data obtained about a candidate for a monitor is memorized to media of storage capacity restricted on a network according to a storage process. Stream data index information about the whereabouts of said stream data currently recorded on said media by said storage process is intensively managed on said network according to a management process. Retrieve said said stream data index information managed intensively based on retrieval conditions, and a retrieval result about the whereabouts of stream data is obtained in a retrieval process. Based on a retrieval result by said retrieval process, the whereabouts of stream data which satisfies said retrieval conditions is acquired according to a stream data whereabouts acquisition process. Based on the whereabouts of stream data which satisfies said retrieval conditions acquired according to said stream data whereabouts acquisition process A stream data acquisition process acquires said stream data from said media which recorded the stream data concerned, and stream data about said candidate for a monitor is collected.

[0010] A acquisition method concerning invention according to claim 2 A storage process which records stream data which was obtained about a candidate for a monitor, and which is continuing in time by using media of limited storage capacity for endless on said media distributed on a network, A management process in which management about the whereabouts of said stream data is performed based on stream data index information containing chart-lasting-time width of face according to storage capacity of said media at the time of said stream data being endlessly recorded on said media distributed on said network, A retrieval process in which the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information containing said chart-lasting-time width of face is searched, It has said stream data whereabouts acquisition process which acquires a retrieval result about the whereabouts of said stream data which satisfies retrieval conditions containing said time of day.

[0011] A acquisition method concerning invention according to claim 3 A storage process which carries out event record of the stream data obtained about a candidate for a monitor at media of limited storage capacity distributed on a network, A management process in which management about the whereabouts of said stream data is performed based on stream data index information which includes the section about event generating time of day and chart lasting time at the time of event record of said stream data being carried out in said media distributed on said network, A retrieval process in which the whereabouts of stream data by which event record was carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information is searched, It has a stream data whereabouts acquisition process which acquires a retrieval result about the whereabouts of stream data by which event record was carried out which satisfies retrieval conditions containing said time of day.

[0012] A management process is made to perform management about the whereabouts of event record stream data based on stream data index information which contains chart-lasting-time width of face before and behind event generating time of day at the time of event record of the stream data being carried out, and the event generating time of day concerned in media which distributed a acquisition method concerning invention according to claim 4 on a network.

[0013] A acquisition method concerning invention according to claim 5 By using media of limited storage capacity for endless, were recorded on said media distributed on a network according to a storage process. About a candidate for a monitor, an evacuation conservation process re-records obtained stream data which is continuing in time on media for evacuation conservation, and evacuation conservation is carried out. Header information which described the attribute

of said stream data including the chart-lasting-time section at the time of recording said said re-recorded stream data on said media of the stream data concerned endlessly, An evacuation conservation management process manages by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information including the chart-lasting-time section at the time of said said re-recorded stream data being endlessly recorded on said media A management process performs management about the whereabouts of said said stream data currently re-recorded. A retrieval process searches the whereabouts about said media for evacuation conservation which are re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information including said chart-lasting-time section. A retrieval result with which are satisfied of said retrieval conditions is acquired in a stream data whereabouts acquisition process, and stream data with which it is satisfied of said retrieval conditions from said media for evacuation conservation is collected based on said acquired retrieval result.

[0014] A acquisition method concerning invention according to claim 6 Stream data obtained about a candidate for a monitor by which event record was carried out by media distributed on a network according to a storage process to media for evacuation conservation An evacuation conservation process which records and carries out evacuation conservation, [re-] Header information which described the attribute of stream data containing event generating time of day and chart-lasting-time width of face at the time of carrying out event record of said said re-recorded stream data at said media of the stream data concerned, It has an evacuation conservation management process managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information containing event generating time of day and chart-lasting-time width of face at the time of event record of said said re-recorded stream data being carried out at said media A management process performs management about the whereabouts of said said stream data currently re-recorded. A retrieval process searches the whereabouts about said media for evacuation conservation which are re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information. A stream data whereabouts acquisition process acquires a retrieval result about said media for evacuation conservation which are re-recording said stream data with which are satisfied of said retrieval conditions. Based on said acquired retrieval result, stream data based on event record with which it is satisfied of said retrieval conditions from said media for evacuation conservation is collected.

[0015] A acquisition method concerning invention according to claim 7 The whereabouts of stream data currently recorded on media which were equipped with a time-of-day unification process for unifying time of day on a network, and were distributed on a network It manages using stream data index information based on time of day which a management process unification-ized in said time-of-day unification process. A retrieval process searches the whereabouts of stream data to said stream data index information based on retrieval conditions including assignment by said unification-ized time of day. A retrieval result about the whereabouts of stream data which satisfies said retrieval conditions is acquired in said stream data whereabouts acquisition process.

[0016] A acquisition method concerning invention according to claim 8 Deliver and receive current time information about time of day currently used in processing of stream data performed by distributing on a network on said network. A time-of-day difference measurement process which measures a time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information, Correction value about time of day currently used by processing of said stream data Based on said said measured time-of-day difference, it has a correction value operation process which delivered and received said current time information on said network, while is set and searched for. Correction value calculated in said correction value operation process while a management process managed the whereabouts of said stream data based on stream data index information on stream data currently recorded on media distributed on said network is managed. Time of day specified as retrieval conditions and time of day in a retrieval result are amended to said stream data index information based on said correction value managed in said management process. A retrieval process searches the whereabouts of stream data which satisfies said retrieval conditions. A stream data whereabouts acquisition process acquires a retrieval result of said stream data index information about the whereabouts of stream data amended when retrieval was performed in said retrieval process. Stream data is acquired from said media in a stream data acquisition process based on said acquired retrieval result.

[0017] A acquisition method concerning invention according to claim 9 Based on a retrieval result of amended stream

data index information which was acquired in a stream data whereabouts acquisition process Time difference between media produced between said media at the time of acquiring said stream data from media which recorded stream data with which are satisfied of retrieval conditions is got to know. A stream data acquisition process acquires the stream data concerned from said media which recorded stream data with which are satisfied of retrieval conditions amended based on time difference between the media concerned.

[0018] A acquisition method concerning invention according to claim 10 Said stream data which was equipped with a time-of-day unification process for unifying time of day on a network, and was re-recorded in an evacuation conservation process It manages based on time of day unified in said time-of-day unification process according to an evacuation conservation management process. The whereabouts of stream data currently re-recorded on media for evacuation conservation is managed in a management process using stream data index information based on time of day unification-ized in said time-of-day unification process. The whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions including assignment by said unification-ized time of day is searched with a retrieval process about media for evacuation conservation to said stream data index information. A stream data whereabouts acquisition process acquires a retrieval result about the whereabouts of stream data which satisfies retrieval conditions including assignment by said unification-ized time of day.

[0019] A acquisition method concerning invention according to claim 11 Deliver and receive current time information about time of day currently used in processing of stream data performed by distributing on a network on said network. A time-of-day difference measurement process which measures a time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information, Correction value about time of day currently used by processing of said stream data Based on said said measured time-of-day difference, it has a correction value operation process which delivered and received said current time information on said network, while is set and searched for. Correction value calculated in said correction value operation process while a management process managed the whereabouts of said stream data based on stream data index information on stream data currently re-recorded on media for evacuation conservation is managed. Time of day specified as said stream data index information as a pair necropsy wire rope affair and time of day in a retrieval result are amended based on said correction value managed in said management process. The whereabouts about said media for evacuation conservation of stream data with which are satisfied of said retrieval conditions is searched in a retrieval process. A retrieval result of said stream data index information about the whereabouts of said amended stream data is acquired in a stream data whereabouts acquisition process. Based on said acquired retrieval result, stream data with which are satisfied of said retrieval conditions is acquired from said media for evacuation conservation in a stream data acquisition process.

[0020] In a correction value operation process, correction value is calculated based on a time-of-day difference including a transmission-time difference by transmission time taken for a acquisition method concerning invention according to claim 12 to deliver and receive current time information.

[0021] A acquisition method concerning invention according to claim 13 A stream data acquisition process based on a retrieval result of amended stream data index information which was acquired in a stream data whereabouts acquisition process Time difference between media produced between said media for evacuation conservation at the time of acquiring said stream data from media for evacuation conservation which recorded stream data with which are satisfied of retrieval conditions is got to know. The stream data concerned is acquired from said media for evacuation conservation which recorded stream data with which it is satisfied of retrieval conditions based on time difference between the media concerned.

[0022] A acquisition method concerning invention according to claim 14 Chart-lasting-time width of face of stream data currently endlessly recorded on media distributed on a network, The whereabouts of said stream data is managed in a management process based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. A retrieval process searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. A stream data whereabouts acquisition process acquires a retrieval result of said stream data index information that said retrieval conditions are satisfied.

[0023] A retrieval process searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions and current time containing time of day and time width of face which specify stream data to stream data index information, and the acquisition method concerning invention according to claim 15 acquires the retrieval result about the whereabouts of stream data containing recording start time of day and record end time of

stream data with which are satisfied of said retrieval conditions in a stream data whereabouts acquisition process.
[0024] A acquisition method concerning invention according to claim 16 acquires a retrieval result about the whereabouts of stream data containing endless chart-lasting-time width of face of media which recorded stream data with which are satisfied of recording start time of day, record end time, and said retrieval conditions of stream data with which are satisfied of retrieval conditions in a stream data whereabouts acquisition process.
[0025] A acquisition method concerning invention according to claim 17 Chart-lasting-time width of face of stream data by which endless record is carried out at media distributed on a network, The whereabouts of said stream data is managed in a management process based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. As opposed to said stream data index information A generating means of said stream data, The whereabouts of stream data which satisfies the retrieval conditions concerned by making data-processing format of said stream data etc. into retrieval conditions is searched with a retrieval process. A retrieval result of said stream data index information that said retrieval conditions are satisfied is acquired in a stream data whereabouts acquisition process.
[0026] A acquisition method concerning invention according to claim 18 Chart-lasting-time width of face before and behind event generating time of day for every media which carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. is managed in a management process. The whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day is searched with a retrieval process to said stream data index information. A retrieval result about the whereabouts of stream data by which event record is carried out which satisfies said retrieval conditions is acquired in a stream data whereabouts acquisition process.
[0027] A acquisition method concerning invention according to claim 19 The whereabouts of stream data by which event record is carried out is referred to a pair necropsy funiculus process to stream data index information based on retrieval conditions including the time amount section of said event record. A retrieval result about the whereabouts of stream data with which all or a part of event chart lasting time is contained at said time amount section of event record in said retrieval conditions and by which event record is carried out is acquired in a stream data whereabouts acquisition process.
[0028] A acquisition method concerning invention according to claim 20 Chart-lasting-time width of face before and behind event generating time of day for every media which carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. is managed in a management process. Information about the event itself, such as said event identifier, said type, etc., The whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions, such as a generating means of said stream data and data-processing format of said stream data, is searched with a retrieval process. A retrieval result about the whereabouts of stream data by which event record is carried out which satisfies said retrieval conditions is acquired in a stream data whereabouts acquisition process. Based on the whereabouts of stream data which satisfies said retrieval conditions acquired according to said tree MUDETA whereabouts acquisition process, a stream data acquisition process collects stream data from said media.
[0029] A acquisition method concerning invention according to claim 21 A generating means of stream data based on endless record, data-processing format of said stream data, Header information including the chart-lasting-time section of a terminal with which a type and said stream data were obtained, and said stream data currently re-recorded on media for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on endless record re-recorded on media for evacuation conservation, Based on stream data index information by difference in distinction information on media for evacuation conservation and said endless record of said stream data, or event record etc. The whereabouts about said media for evacuation conservation of stream data based on said endless record is managed in a management process. The whereabouts about said media for evacuation conservation of said stream data with which it is satisfied of the retrieval

conditions concerned based on retrieval conditions containing time of day is searched with a retrieval process to said stream data index information. A retrieval result about the whereabouts about said media for evacuation conservation of said stream data with which are satisfied of said retrieval conditions is acquired in a stream data whereabouts acquisition process.

[0030] A acquisition method concerning invention according to claim 22 The whereabouts about media for evacuation conservation of said stream data which satisfy the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data by which endless record was carried out is searched with a retrieval process to stream data index information. The whereabouts about said media for evacuation conservation of stream data is acquired in a stream data whereabouts acquisition process based on recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions.

[0031] A acquisition method concerning invention according to claim 23 A generating means of stream data based on endless record, data-processing format of said stream data, Header information including the chart-lasting-time section of a terminal with which said stream data was obtained, and said stream data currently re-recorded on media for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on endless record re-recorded on media for evacuation conservation, Based on stream data index information by a type in which a difference in distinction information on media for evacuation conservation and said endless record of said stream data, or event record is shown The whereabouts about said media for evacuation conservation of said stream data is managed in a management process. As opposed to said stream data index information A generating means of said stream data, The whereabouts about media for evacuation conservation of stream data which satisfy the retrieval conditions concerned by making into retrieval conditions data-processing format of said stream data, a terminal with which said stream data was obtained is searched with a retrieval process. A retrieval result by said retrieval process is acquired in a stream data whereabouts acquisition process, and stream data with which are satisfied of said retrieval conditions is collected from said media for evacuation conservation.

[0032] A acquisition method concerning invention according to claim 24 An evacuation conservation identifier to stream data based on event record re-recorded on media for evacuation conservation, distinction information on media for evacuation conservation, and a class of said stream data -- and The whereabouts about said media for evacuation conservation of stream data based on said event record is managed in a management process based on stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on media for evacuation conservation etc. The whereabouts about said media for evacuation conservation of stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day is searched with a retrieval process to said stream data index information. The whereabouts about said media for evacuation conservation of stream data with which are satisfied of said retrieval conditions is acquired in a stream data whereabouts acquisition process.

[0033] A acquisition method concerning invention according to claim 25 The whereabouts about media for evacuation conservation of stream data which satisfy the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data is searched with a retrieval process to stream data index information. The whereabouts of stream data is acquired about media for evacuation conservation in a stream data whereabouts acquisition process based on recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions.

[0034] A acquisition method concerning invention according to claim 26 A generating means of stream data based on event record, data-processing format of said stream data, As opposed to header information including the chart-lasting-time section of a terminal with which an event identifier, a type, and said stream data were obtained, and said stream data currently re-recorded on media for evacuation conservation A generating means of said stream data, data-processing format of said stream data, The whereabouts about media for evacuation conservation of said stream data which satisfy the retrieval conditions concerned by making into retrieval conditions a terminal with which an event identifier, a type, or said stream data was obtained is searched with a retrieval process. The whereabouts about media for evacuation conservation of said stream data which satisfy said retrieval conditions is acquired in a stream data whereabouts acquisition process. Based on the whereabouts of said stream data which satisfies said acquired retrieval conditions, stream data is collected from media for evacuation conservation.

[0035] Local equipment which distributed supervisory equipment concerning invention according to claim 27 on said

network which records stream data obtained about a candidate for a monitor on storage of storage capacity with which it was restricted on a network, and has been arranged, Data control equipment which manages intensively stream data index information about the whereabouts of said stream data currently recorded on said storage on said network, A retrieval means to retrieve said stream data index information managed intensively based on retrieval conditions, Center equipment which obtains said stream data from said storage, and collects stream data about said candidate for a monitor based on the whereabouts of said stream data acquired by retrieval result by this retrieval means, It has means of communications for transmitting and receiving various information, such as said stream data, on said network.
[0036] Supervisory equipment concerning invention according to claim 28 is using storage of limited storage capacity for endless. Local equipment records stream data which was obtained about a candidate for a monitor and which is continuing in time on said storage on a network. Data control equipment performs management about the whereabouts of said stream data based on stream data index information containing chart-lasting-time width of face according to storage capacity of said storage at the time of said stream data being endlessly recorded on said storage on said network. A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information containing said chart-lasting-time width of face. Based on the whereabouts of said stream data acquired from a retrieval result obtained by said retrieval means, said stream data is obtained from said storage, and said center equipment collects stream data about said candidate for a monitor.
[0037] Supervisory equipment concerning invention according to claim 29 stream data obtained about a candidate for a monitor Local equipment carries out event record at storage of storage capacity with which it was restricted on a network. Data control equipment performs management about the whereabouts of said stream data based on stream data index information which includes the section about event generating time of day and chart lasting time at the time of event record of said stream data being carried out in said storage on said network. A retrieval means searches the whereabouts of stream data by which event record was carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Based on a retrieval result about the whereabouts of stream data by which event record was carried out which satisfies retrieval conditions containing said time of day Said stream data is obtained from said storage which recorded the stream data concerned, and center equipment collects stream data about said candidate for a monitor.
[0038] Data control equipment is made to perform said management about the whereabouts of stream data by which event record was carried out based on stream data index information that supervisory equipment concerning invention according to claim 30 contains chart-lasting-time width of face before and behind event generating time of day at the time of event record of the stream data being carried out, and the event generating time of day concerned in storage on a network.
[0039] Were recorded on the storage concerned because supervisory equipment concerning invention according to claim 31 uses storage of limited storage capacity for endless. Stream data which was obtained about a candidate for a monitor and which is continuing in time to storage for evacuation conservation An evacuation conservation means which records and carries out evacuation conservation, [re-] Header information which described the attribute of the stream data concerned for said said re-recorded stream data, It has an evacuation conservation management tool managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information including the chart-lasting-time section at the time of said said re-recorded stream data being endlessly recorded on said storage Data control equipment performs management about the whereabouts of said said stream data currently re-recorded. A retrieval means searches the whereabouts about said storage for evacuation conservation which is re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information including said chart-lasting-time section. Based on a retrieval result by said retrieval means, center equipment collects stream data from said storage for evacuation conservation.
[0040] Supervisory equipment concerning invention according to claim 32 to storage stream data by which event record was carried out and which was obtained about a candidate for a monitor to storage for evacuation conservation An evacuation conservation means which records and carries out evacuation conservation, [re-] Header information which described the attribute of the stream data concerned for said said re-recorded stream data, It has an evacuation conservation management tool managed by evacuation conservation management information, such as an identifier of

said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information containing event generating time of day and chart-lasting-time width of face at the time of event record of said said re-recorded stream data being carried out at said storage Data control equipment performs management about the whereabouts of said said stream data currently re-recorded. A retrieval means searches the whereabouts about said storage for evacuation conservation which is re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section to said stream data index information. Based on a retrieval result with which are satisfied of said retrieval conditions, center equipment collects stream data based on event record from said storage for evacuation conservation.

[0041] Supervisory equipment concerning invention according to claim 33 is equipped with a time-of-day agreement means for unifying time of day on a network. The whereabouts of stream data currently recorded on storage on said network Data control equipment manages using stream data index information based on time of day unification-ized with said time-of-day agreement means. A retrieval means searches the whereabouts of stream data which satisfies said retrieval conditions to said stream data index information based on retrieval conditions including assignment by said unification-ized time of day. Center equipment acquires a retrieval result about the whereabouts of stream data which satisfies retrieval conditions including assignment by said unification-ized time of day.

[0042] Supervisory equipment concerning invention according to claim 34 delivers and receives current time information about time of day currently used in processing of stream data performed on a network on said network. A time-of-day difference measurement means to measure a time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information, Correction value about time of day currently used by processing of said stream data Based on said time-of-day difference measured with said time-of-day difference measurement means, it has a correction value operation means which delivered and received said current time information on said network, while is set and searched for. Based on stream data index information on stream data currently recorded on storage on said network Correction value which said correction value operation means calculated while data control equipment managed the whereabouts of said stream data is managed. Time of day specified as retrieval conditions and time of day in a retrieval result are amended to said stream data index information based on said correction value which said data control equipment has managed. A retrieval means searches the whereabouts of stream data which satisfies said retrieval conditions. Center equipment collects stream data from said storage based on a retrieval result of said stream data index information about the whereabouts of stream data amended when retrieval was performed by said retrieval means.

[0043] Supervisory equipment concerning invention according to claim 35 based on a retrieval result of amended stream data index information which center equipment acquired The center equipment concerned gets to know time difference between media produced between said storage at the time of acquiring said stream data from storage which recorded stream data with which are satisfied of retrieval conditions. The stream data concerned is acquired and collected from said storage which recorded stream data with which are satisfied of retrieval conditions amended based on time difference between the media concerned.

[0044] Supervisory equipment concerning invention according to claim 36 is equipped with a time-of-day agreement means for unifying time of day on a network. An evacuation conservation management tool manages stream data re-recorded with an evacuation conservation means based on time of day unified with said time-of-day agreement means. Data control equipment manages using stream data index information based on time of day which unification-ized the whereabouts of stream data currently re-recorded on storage for evacuation conservation with said time-of-day agreement means. A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions including assignment by said unification-ized time of day about storage for evacuation conservation to said stream data index information. A retrieval result about the whereabouts of stream data which satisfies retrieval conditions including assignment by said unification-ized time of day is acquired, center equipment acquires the stream data concerned from storage for evacuation conservation, and it is collected.

[0045] Supervisory equipment concerning invention according to claim 37 delivers and receives current time information about time of day currently used in processing of stream data performed by distributing on a network on said network. A time-of-day difference measurement means to measure a time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information, Correction value about time of day currently used by processing of said stream data Based on said time-of-day difference

measured with said time-of-day difference measurement means, it has a correction value operation means which delivered and received said current time information on said network, while is set and searched for. Based on stream data index information on stream data currently re-recorded on storage for evacuation conservation Correction value calculated with said correction value operation means while data control equipment managed the whereabouts of said stream data is managed. Time of day specified as retrieval conditions and time of day in a retrieval result are amended to said stream data index information based on said correction value managed with said data control equipment. A retrieval means searches the whereabouts about said storage for evacuation conservation of stream data with which are satisfied of said retrieval conditions. Based on a retrieval result of said stream data index information about the whereabouts of said stream data amended when retrieval was performed by said retrieval means, center equipment collects stream data from said storage for evacuation conservation.

[0046] A correction value operation means calculates correction value based on a time-of-day difference of said current time information including a transmission-time difference by transmission time taken for supervisory equipment concerning invention according to claim 38 to deliver and receive current time information delivered and received.

[0047] Supervisory equipment concerning invention according to claim 39 based on a retrieval result of amended stream data index information which center equipment acquired The center equipment concerned gets to know time difference between media produced between said storage for evacuation conservation at the time of acquiring said stream data from storage for evacuation conservation which recorded stream data with which are satisfied of retrieval conditions. The stream data concerned is acquired from said storage for evacuation conservation which recorded stream data with which are satisfied of retrieval conditions amended based on time difference between the media concerned.

[0048] Chart-lasting-time width of face of stream data with which supervisory equipment concerning invention according to claim 40 is endlessly recorded on storage on a network, Data control equipment manages the whereabouts of each of said stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Center equipment acquires stream data with which are satisfied of said retrieval conditions from said storage based on a retrieval result of said stream data index information that said retrieval conditions are satisfied.

[0049] Supervisory equipment concerning invention according to claim 41 receives stream data index information. A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions and current time containing time of day and time width of face which specify stream data. Based on a retrieval result about the whereabouts of stream data containing recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions, center equipment acquires stream data with which are satisfied of said retrieval conditions from storage.

[0050] Center equipment acquires stream data with which are satisfied of said retrieval conditions from said storage based on a retrieval result about the whereabouts of stream data containing endless chart-lasting-time width of face of storage with which supervisory equipment concerning invention according to claim 42 recorded stream data with which are satisfied of recording start time of day, record end time, and said retrieval conditions of stream data with which are satisfied of retrieval conditions.

[0051] Chart-lasting-time width of face of stream data with which endless record of the supervisory equipment concerning invention according to claim 43 is carried out at storage on a network, Data control equipment manages the whereabouts of each of said stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. As opposed to said stream data index information A generating means of said stream data, A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned by making data-processing format of said stream data etc. into retrieval conditions. Based on a retrieval result of said stream data index information that said retrieval conditions are satisfied, center equipment acquires stream data with which are satisfied of said retrieval conditions from said storage.

[0052] Chart-lasting-time width of face before and behind event generating time of day for every storage when supervisory equipment concerning invention according to claim 44 carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, Data control equipment manages the whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. A retrieval means searches the whereabouts of stream data by which

event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Based on a retrieval result about the whereabouts of stream data by which event record is carried out which satisfies said retrieval conditions, center equipment collects stream data from said storage.

[0053] A retrieval means carries out a pair necropsy funiculus to stream data index information based on retrieval conditions which include the time amount section of said event record for the whereabouts of stream data with which event record of the supervisory equipment concerning invention according to claim 45 is carried out. Center equipment acquires a retrieval result about the whereabouts of stream data with which all or a part of event chart lasting time is contained at said time amount section of event record in said retrieval conditions and by which event record is carried out. Stream data is acquired from storage based on said acquired retrieval result.

[0054] Chart-lasting-time width of face before and behind event generating time of day for every storage when supervisory equipment concerning invention according to claim 46 carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, Data control equipment manages the whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. Information about the event itself, such as said event identifier, said type, etc., A retrieval means searches the whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions, such as a generating means of said stream data, and data-processing format of said stream data. Center equipment acquires a retrieval result about the whereabouts of stream data by which event record is carried out which satisfies said retrieval conditions, acquires said stream data from said storage based on the acquired retrieval result concerned, and collects it.

[0055] A generating means of stream data according [supervisory equipment concerning invention according to claim 47] to endless record, Data-processing format of said stream data, a type, local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on storage for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on endless record re-recorded on media for evacuation conservation, Based on stream data index information by difference in distinction information on media for evacuation conservation and said endless record of said stream data, or event record etc. Data control equipment manages the whereabouts about said storage for evacuation conservation of stream data based on said endless record. A retrieval means searches the whereabouts about said storage for evacuation conservation of said stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Center equipment acquires a retrieval result about the whereabouts about said storage for evacuation conservation of said stream data with which are satisfied of said retrieval conditions.

[0056] Supervisory equipment concerning invention according to claim 48 receives stream data index information. A retrieval means searches the whereabouts about storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data by which endless record was carried out. Center equipment acquires the whereabouts about said storage for evacuation conservation of stream data based on recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions.

[0057] A generating means of stream data according [supervisory equipment concerning invention according to claim 49] to endless record, Data-processing format of said stream data, local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on storage for evacuation conservation, And a conservation evacuation identifier to stream data based on endless record re-recorded on a reference pointer and storage for evacuation conservation which specify the header information concerned, Based on stream data index information by a type in which a difference in distinction information on storage for evacuation conservation and said endless record of said stream data, or event record is shown Data control equipment manages the whereabouts about said storage for evacuation conservation of said stream data. As opposed to said stream data index information A generating means of said stream data, A retrieval means searches the whereabouts about storage for evacuation conservation of stream data which satisfies the retrieval conditions concerned by making into retrieval conditions local equipment with which data-processing format of said stream data and said stream data were obtained. Center equipment acquires a retrieval result about storage for evacuation conservation of said stream

data with which are satisfied of said retrieval conditions, and collects stream data with which are satisfied of said acquired retrieval conditions from storage for evacuation conservation.
[0058] An evacuation conservation identifier to stream data based on event record to which supervisory equipment concerning invention according to claim 50 was re-recorded on storage for evacuation conservation, distinction information on storage for evacuation conservation, and a class of said stream data -- and Data control equipment manages the whereabouts about said storage for evacuation conservation of stream data based on said event record based on stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on storage for evacuation conservation etc. A retrieval means searches the whereabouts about said storage for evacuation conservation of stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Based on the whereabouts about said storage for evacuation conservation of stream data with which are satisfied of said acquired retrieval conditions, center equipment acquires the stream data concerned from storage for evacuation conservation, and collects it.
[0059] A retrieval means searches the whereabouts about the storage of stream data for evacuation conservation which satisfies the retrieval conditions concerned based on retrieval conditions and current time when supervisory equipment concerning invention according to claim 51 includes the time-amount section which specifies stream data to stream data index information, and center equipment acquires the whereabouts of stream data about the storage for evacuation conservation based on the recording start time of day and the record end time of stream data with which are satisfied of said retrieval conditions.
[0060] A generating means of stream data according [supervisory equipment concerning invention according to claim 52] to event record, Data-processing format of said stream data, an event identifier, a type, As opposed to header information including the chart-lasting-time section of said stream data currently re-recorded on local equipment with which said stream data was obtained, and storage for evacuation conservation A generating means of said stream data, data-processing format of said stream data, A retrieval means searches the whereabouts about storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned by making into retrieval conditions local equipment with which an event identifier, a type, or said stream data was obtained. Center equipment acquires the whereabouts about storage for evacuation conservation of said stream data which satisfies said retrieval conditions from said retrieval result, and collects stream data from storage for evacuation conservation based on said acquired whereabouts.
[0061]
[Embodiment of the Invention] Hereafter, one gestalt of implementation of this invention is explained.
Gestalt 1. drawing 1 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 1 of this operation is applied. In drawing, 1 equips local equipment and 2 data-control-equips center equipment and 3.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 1 of implementation of this invention is applied.
[Drawing 2] It is explanatory drawing showing the retrieval result of the supervisory equipment with which the acquisition method by the gestalt 1 of implementation of this invention is applied.
[Drawing 3] It is explanatory drawing showing the retrieval result of the supervisory equipment with which the acquisition method by the gestalt 2 of implementation of this invention is applied.
[Drawing 4] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 3 of implementation of this invention is applied.
[Drawing 5] It is explanatory drawing showing the retrieval result of the supervisory equipment with which the acquisition method by the gestalt 3 of implementation of this invention is applied.
[Drawing 6] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 4 of implementation of this invention is applied.
[Drawing 7] It is explanatory drawing showing the method of the evacuation conservation to the storage for evacuation conservation of the stream data in the supervisory equipment with which the acquisition method by the gestalt 4 of implementation of this invention is applied.
[Drawing 8] It is explanatory drawing showing the stream data index information for managing the whereabouts of the evacuation conservation data recorded on the evacuation conservation equipment by the Distributed-Data-Management means in the supervisory equipment with which the acquisition method by the gestalt 4 of implementation of this invention is applied.
[Drawing 9] It is explanatory drawing showing the retrieval result to which it replied to center equipment from the data control equipment in the supervisory equipment with which the acquisition method by the gestalt 4 of implementation of this invention is applied.
[Drawing 10] It is explanatory drawing showing the stream data index information on supervisory equipment that the acquisition method of the gestalt 5 of implementation of this invention is applied.
[Drawing 11] It is explanatory drawing showing the retrieval result of the supervisory equipment with which the acquisition method of the gestalt 5 of implementation of this invention is applied.
[Drawing 12] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 6 of implementation of this invention is applied.
[Drawing 13] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 7 of implementation of this invention is applied.
[Drawing 14] It is explanatory drawing showing the configuration of the time-of-day difference table in the supervisory equipment with which the acquisition method by the gestalt 7 of implementation of this invention is applied.
[Drawing 15] It is the block diagram showing the configuration of conventional supervisory equipment.
[Drawing 16] It is explanatory drawing showing the recording method of the stream data in conventional supervisory equipment.
[Drawing 17] It is explanatory drawing showing the event recording table in the recording method of the stream data of conventional supervisory equipment.
[Description of Notations]

1 Local Equipment, 2 Center Equipment, 3 Data Control Equipment (Retrieval Means, Correction Value Operation Means), 4 Storage, 5 A network, 9a, 9b, 9c Means of communications, 11, 22, 42 A Distributed-Data-Management means (retrieval means), 12, 23, 43 Stream data index information, 13 Endless record data (stream data), 20 Event record data (stream data), 21 41 Data control equipment (retrieval means), 32 Evacuation data accumulation and a read-out means (an evacuation conservation means, evacuation conservation management tool), 34 The storage for evacuation conservation, 71, 72, 73 A time-of-day agreement means, 81 Time-of-day difference measurement means.

[Translation done.]

* NOTICES *

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[Title of the Invention] A acquisition method and supervisory equipment
[Claim(s)]
[Claim 1] An acquisition process which receives stream data about a candidate for a monitor distributed and arranged on a network,
A storage process which records said stream data obtained according to the acquisition process concerned, and time of day which inputted said stream data or recorded time of day on a storage means,
A management process in which stream data retrieval information about the whereabouts and said time of day of said

stream data recorded by the storage process concerned is managed on said network,
A retrieval process in which a retrieval result which searches based on retrieval conditions containing said time of day to said stream data retrieval information managed according to the management process concerned, and contains the whereabouts of said stream data is obtained,
A acquisition method equipped with a collection process in which said stream data is collected from said storage which recorded the stream data concerned based on the whereabouts of said stream data which it is as a result of [which was obtained according to the retrieval process concerned / said] retrieval.
[Claim 2] Local equipment which receives stream data about a candidate for a monitor distributed and arranged on a network,
Said stream data obtained from the local equipment concerned, and storage which memorizes time of day which inputted said stream data, or recorded time of day,
Data control equipment which manages stream data retrieval information about the whereabouts and said time of day of said stream data currently recorded on the storage concerned on said network,
Retrieval equipment which obtains a retrieval result which searches based on retrieval conditions containing said time of day to said stream data retrieval information managed with the data control equipment concerned, and contains the whereabouts of said stream data,
Supervisory equipment equipped with center equipment which collects said stream data from said storage which recorded the stream data concerned based on the whereabouts of said stream data which it is as a result of [which was obtained by the retrieval means concerned / said] retrieval.
[Claim 3] Storage records said newest stream data endlessly by rewriting one by one by the newest stream data which should record old stream data currently recorded,
It is supervisory equipment according to claim 2 which stream data retrieval information has retrieval information on chart-lasting-time width of face according to storage capacity of said storage, and is characterized by data control equipment managing the whereabouts of said stream data recorded on endless based on said stream data retrieval information.
[Claim 4] It is supervisory equipment according to claim 2 or 3 which storage records stream data corresponding to said event as event record when an event occurs, stream data retrieval information has information including the time amount section at the time of event record of said stream data being carried out, and is characterized by data control equipment managing the whereabouts of said stream data by which event record was carried out.
[Claim 5] It is supervisory equipment given [of claim 2 to the claims 4 which it has the storage for evacuation conservation which carries out evacuation conservation of the information about stream data and time of day recorded on storage, and stream data retrieval information has the information about said stream data by which evacuation conservation was carried out, and said time of day in said storage for evacuation conservation, and are characterized by to manage the whereabouts of said stream data with which evacuation conservation of the data-control equipment was carried out] in any 1 term.
[Claim 6] Supervisory equipment given [of claim 2 to the claims 5 characterized by establishing a time-of-day agreement means for unifying time of day of local equipment and data control equipment and center equipment] in any 1 term.
[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] This invention relates to the acquisition method and supervisory equipment for transmitting the image and voice stream data from a surveillance camera, a microphone, etc. obtained by the local equipment distributed and arranged on a network through said network to the center equipment which performs a remote monitor, for example, performing monitor business in security, a plant operation control, facility facility management, etc.
[0002]
[Description of the Prior Art] Drawing 15 is the block diagram showing the configuration of the conventional supervisory equipment which connected in the network the local equipment which performs an image entry of data and are recording, and center equipment. drawing -- setting -- 1 -- local equipment and 2 -- center equipment and 5 -- a network and 6 -- for input data are recording and a read-out means, and 9, as for a data-processing means and 13, means of communications and 10 are [an indicating equipment and 7 / a data input means and 8 / endless record data

and 14] event record data.
[0003] Next, actuation is explained. After the data input means 7 inputs and digitizes the image and voice data from a camera or a microphone with this local equipment 1, An image MJPEG (Motion Joint Photographic Coding Experts Group) and MPEG (Motion Picture Experts Group), Voice is encoded by PCM (Pulse Codo Modulation), ADPCM (Adaptive Differential Pulse Code Modulation), etc. While input data are recording and the read-out means 8 record the coded data on storage, such as a hard disk, as stream data [****] in time Said recorded stream data is read according to the demand from center equipment. The stream data by which reading appearance was carried out is transmitted to center equipment 2 by means of communications 9 through a network 5, and the means of communications 11 of center equipment 2 receives said stream data. The stream data received in center equipment 2 is decoded with the data-processing means 10, it is displayed on a display 6 or processing of image recognition etc. is performed.
[0004] thus -- although stream data is recorded with local equipment 1 and it is transmitted to center equipment 2 if needed -- data, such as an image and voice, -- measurement data etc. and a ratio -- since the amount of BEDETA becomes huge, with input data are recording and the read-out means 8, it divides roughly and two kinds of data is recorded. Drawing 16 and drawing 17 are explanatory drawings for explaining this recording method, and, for an endless recording table and 16, as for endless record substance data and 18, an endless record index table and 17 are [15 / an event recording table and 19] event record substance files in drawing. Endless record records the newest input data of a certain fixed time amount on endless, and overwrites the newest data in order [data / old] in ring buffer format. Although chart-lasting-time width of face is comparatively short to endless record, there is also timelapse record which carries out long duration record at the gap which 1 frames-per-second degree thinned out in addition to what is recorded by the high frame rate which is 30 frames-per-second degree among them.
[0005] Moreover, as for ejection and the endless record data 13, the event record data 14 stores independently the data before and behind event generating time of day from the endless record data 13 or the data into which it is inputted from the data input means 7, when input data are recording and the read-out means 8 receive the event alert from the sensing equipment which is not illustrated. Although event record also has a limit of the number and sequential elimination is carried out from an old thing or the low thing of priority, rear-spring-supporter record of the important data is carried out from endless record of a high frame rate at a long time.
[0006] When requiring the stream data recorded from center equipment 2, the time amount section from five quotas to current time called 1996.12.25.13:20:00 to 1996.12.25.13:25:00 can be specified, or the identification number (ID) and event classification of an event can be specified and searched.
[0007]
[Problem(s) to be Solved by the Invention] Since a conventional acquisition method and supervisory equipment are constituted as mentioned above When [which is related with the stream data which specified the time amount section] it asks, for example, endless chart-lasting-time width of face differs with each local equipment 1 As opposed to inquiry what kind of stream data exists in the assignment time amount section in full-local equipment 1 For the whereabouts check of said stream data, center equipment 2 had to be asked to all the corresponding local equipments 1, and when much local equipments were connected, it had the technical problem to which retrieval speed becomes slow each time.
[0008] While it was made in order that this invention might solve the above technical problems, and searching the whereabouts of the stream data currently recorded at a high speed and being able to collect efficiently, also when the difference has arisen on the network at the time of day managed, it aims at obtaining the acquisition method and supervisory equipment which can perform high retrieval of precision.
[0009]
[Means for Solving the Problem] Said stream data which received stream data about a candidate for a monitor distributed and arranged on a network according to a predetermined acquisition process, and received it, Time of day which inputted said stream data, or recorded time of day is recorded on a storage means equipped only with limited storage capacity. Manage stream data retrieval information about the whereabouts and said time of day of said recorded stream data concerned on a network, and the stream data retrieval information concerned managed is received. While obtaining a retrieval result which searches based on retrieval conditions containing said time of day, and contains the whereabouts of stream data Based on the whereabouts of said stream data obtained by retrieval, stream data searched from storage which recorded the stream data concerned is collected. information which contains said stream data on said network was transmitted and received, and stream data was collected [having made and] by communication link.
[0010] Moreover, local equipment which receives stream data about a candidate for a monitor distributed and arranged

on a network, Storage with which storage capacity which memorizes time of day which inputted said stream data obtained from the local equipment concerned and said stream data, or recorded time of day was restricted, Data control equipment which manages stream data retrieval information about the whereabouts and said time of day of said stream data currently recorded on the storage concerned on said network, As opposed to said stream data retrieval information managed with the data control equipment concerned A retrieval means to obtain a retrieval result which searches based on retrieval conditions containing said time of day, and contains the whereabouts of said stream data, Center equipment which collects said stream data from said storage which recorded the stream data concerned based on the whereabouts of said stream data which it is as a result of [which was obtained by the retrieval means concerned / said] retrieval, means of communications for transmitting and receiving information which contains said stream data on said network -- **** -- supervisory equipment made like is constituted.

[0011] Moreover, the above-mentioned storage records said newest stream data endlessly by rewriting one by one by the newest stream data which should record old stream data currently recorded, the above-mentioned stream data retrieval information has retrieval information on chart-lasting-time width of face according to storage capacity of said storage, and the above-mentioned data-control equipment constitutes the supervisory equipment which manages the whereabouts of said stream data recorded on endless based on said stream data retrieval information.

[0012] Moreover, the above-mentioned storage records stream data corresponding to said event as event record, when an event occurs, the above-mentioned stream data retrieval information has information including the time amount section at the time of event record of said stream data being carried out, and the above-mentioned data control equipment constitutes supervisory equipment which manages the whereabouts of said stream data by which event record was carried out.

[0013] Moreover, it has storage for evacuation conservation which carries out evacuation conservation of the information about stream data and time of day which were recorded on the above-mentioned storage, the above-mentioned stream data retrieval information has information about said stream data by which evacuation conservation was carried out at said storage for evacuation conservation, and said time of day, and the above-mentioned data-control equipment constitutes the supervisory equipment manage the whereabouts of said stream data by which evacuation conservation was carried out.

[0014] Moreover, supervisory equipment which established a time-of-day agreement means for unifying time of day of the above-mentioned local equipment, the above-mentioned data control equipment, and the above-mentioned center equipment is constituted.

[0015]

[Embodiment of the Invention] Hereafter, one gestalt of implementation of this invention is explained. Gestalt 1. drawing 1 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 1 of this operation is applied. In drawing 1 center equipment and 3 for local equipment and 2 Data control equipment (retrieval means), The storage which records the stream data for a monitor from which 4 was obtained by local equipment 1, In 5, a network and 6 a data input means and 8 for an indicating equipment and 7 Input data are recording and a read-out means, The means of communications by the side of local equipment 1 and 9b 9a The means of communications by the side of center equipment 2, For the means of communications by the side of data control equipment 3, and 10, as for a Distributed-Data-Management means (retrieval means) and 12, a data-processing means and 11 are [9c / stream data index information and 13] endless record data (stream data). Moreover, drawing 2 is explanatory drawing showing the example of a retrieval result in the gestalt 1 of this operation.

[0016] Next, actuation is explained. First, the stream entry of data in local equipment 1, are recording, read-out, a communication link, and processing of the stream data which the stream data of center equipment 2 received and received are explained. The data input means 7 in local equipment 1 inputs and digitizes the image and voice data from the camera and microphone for a monitor. This digitized data is encoded [data / image] by PCM, ADPCM, etc. about MJPEG, MPEG, and voice data, and that coded data is recorded on the storage 4, such as a hard disk, as endless record data 13 based on endless record [****] in time by input data are recording and the read-out means 8. Moreover, according to the demand from center equipment 2, reading appearance of said recorded endless record data 13 is carried out by input data are recording and the read-out means 8.

[0017] While the endless record data 13 by which reading appearance was carried out is transmitted to center equipment 2 by means-of-communications 9a through a network 5, means-of-communications 9b of center equipment

2 receives said endless record data 13. The endless record data 13 received in center equipment 2 is decoded with the data-processing means 10, it is displayed on a display 6 or processing of image recognition etc. is performed.
[0018] Next, actuation of data control equipment 3 is explained. Means-of-communications 9c of data control equipment 3 receives the stream data retrieval demand message from center equipment 2 which asks the whereabouts of the endless record data 13 recorded on storage 4 by local equipment 1, and the Distributed-Data-Management means 11 processes the stream data retrieval demand concerned, and returns a stream data retrieval result message to center equipment 2 by means-of-communications 9c. The Distributed-Data-Management means 11 is managed here using the stream data index information 12 that the whereabouts of the endless record data 13 with which it is temporal, i.e., new data is automatically recorded according to time amount progress, and old data is eliminated recorded on the storage 4 of each local equipment 1 is shown in drawing 1.
[0019] The endless chart-lasting-time width of face in the storage 4 of each local equipment 1 other than information, such as input devices, such as a camera and a microphone, local equipment 1, a coding method, and a coding rate, is contained in this stream data index information 12. It becomes clear whether to hold the endless record data 13 by the time of day of when when each local equipment goes back to the past from current time with this endless chart-lasting-time width of face. Therefore, when center equipment 2 carries out the stream data retrieval demand which specified the time amount section as shown in drawing 2, it sets at current time 15:20 50 seconds on December 26, 96. When the whereabouts of the endless record data 13 from time amount section 14:30 30 seconds on December 26, 96 in all the local equipments 1 to 14:40 30 seconds on December 26, 96 is asked, The Distributed-Data-Management means 11 [whether the endless record data 13 which is satisfied with each local equipment 1 of retrieval conditions from current time and endless chart-lasting-time width of face exists, and] If it exists, a retrieval result as searches any endless record data from when to when there is from the stream data index information 12 and shows it to drawing 2 will be answered to center equipment 2 by means-of-communications 9c.
[0020] In the example of drawing 2, endless chart-lasting-time width of face is short like local equipment Loc9, and it is indicated to be the case where there is endless record data of all the specified time amount sections like the endless record data which exists in the local equipments Loc3 and Loc17 that endless record data may exist in a part of specified time amount section.
[0021] Since the information on local equipment or the time amount section that the endless record data 13 exists is included in a retrieval result, it points to center equipment 2 so that the time amount section may be specified from said retrieval result to specific local equipment and the desired endless record data 13 may be transmitted, and it can display the transmitted endless record data 13.
[0022] In addition, when endless chart-lasting-time width of face, a coding rate, etc. of local equipment 1 are changed, some are considered as a means by which data control equipment 3 acquires said changed endless chart-lasting-time width of face, coding rate, etc. first, in changing dynamically endless chart-lasting-time width of face, a coding rate, etc. of local equipment 1 by the demand from center equipment 2 etc. during system operation The local equipment 1 which received modification transmits a modification message to data control equipment 3 spontaneously. [whether the Distributed-Data-Management means 11 changes the contents of the stream data index information 12, and] Or center equipment 2 etc. requires parameter modification of endless record of specific local equipment 1 from data control equipment 3. While data control equipment 3 gives a variation order to local equipment 1, the Distributed-Data-Management means 11 is the method of changing the stream data index information 12 etc.
[0023] According to the gestalt 1 of this operation, as mentioned above, the whereabouts of the endless record data 13 recorded on the storage 4 of local equipment 1 It manages using the stream data index information 12 that the Distributed-Data-Management means 11 contains the endless chart-lasting-time width of face of each local equipment 1 in data control equipment 3. According to the stream data retrieval demand message which specified the time amount section received from center equipment 2 by means-of-communications 9c, a pair necropsy funiculus is carried out to the stream data index information 12. Since it was made to reply to center equipment 2 by means-of-communications 9c by making into a stream data retrieval result message local equipment 1, the time amount section, etc. when the endless record data 13 which suits conditions exists Even when much local equipments exist, the effect that retrieval time is shortened sharply is acquired that center equipment 2 should just perform an inquiry once to data control equipment 3.
[0024] Moreover, since data control equipment 3 is managed using the stream data index information 12, without moving the substance of the temporal endless record data 13 recorded on the storage 4 of local equipment 1, it can

control use of system resources, such as CPU, memory, and a network.
[0025] Moreover, the stream data retrieval demand emitted from center equipment 2 can ask the whereabouts of endless record data using the class of not only assignment of the time amount section but coding, and the retrieval parameter about other information of an input device so that clearly from drawing 1.
[0026] Furthermore, time series data, such as measurement data from the sensor equipment connected to local equipment 1 in addition to the camera or the microphone and control data of equipment, can be regarded as the same endless record data as an image or voice, endless record of such time series data can be carried out to the storage 4 of local equipment 1, and said time series data can also be managed with data control equipment 3 using the stream data index information containing endless chart-lasting-time width of face.
[0027] In addition, although the case where one data-control equipment 3 exists on a network in the above explanation explained, it is possible to also constitute so that more than one exist, each shares local equipment and center equipment 2, coordination actuation may be performed, or the stream index information that two or more data-control equipments are [sake / when failure occurs] the same may be managed and other data-control equipments may carry out alternative actuation at the time of failure.
[0028] Moreover, although the above explanation explained data control equipment 3 as an independent dedicated device, the Distributed-Data-Management means 11 of data control equipment 3 and means-of-communications 9c may be the configurations of operating in center equipment 2, the local equipment 1, etc. which do not necessarily need to operate as dedicated devices and have a throughput.
[0029] Furthermore, it is also possible to include the various data about local equipments in which it is shown that it is broken local equipment, such as information, in the stream data index information 12 shown in drawing 1.
[0030] The acquisition method and supervisory equipment of a gestalt 2 of gestalt 2. of operation, next operation are explained. Although the acquisition method of the gestalt of this operation and the configuration of supervisory equipment are the same as the configuration of the acquisition method of the gestalt 1 of said operation, and supervisory equipment and stream data retrieval information is also the same contents as the stream data index information 12 on the gestalt 1 of said operation, the retrieval results of the stream data retrieval demand of center equipment 2 differ.
[0031] Although drawing 3 shows this example of a retrieval result, a different point from the retrieval result shown in drawing 2 is that the endless chart-lasting-time width of face of the local equipment with which the endless record data 13 which suits retrieval conditions exists is contained. This is data used when the time difference which cannot be disregarded arises for the transit delay which originates in the throughput and network load of each equipment at the time of day which carried out retrieval processing with data control equipment 3, and the time of day when center equipment 2 received the stream data retrieval result message.
[0032] Since the endless record data 13 is endlessly rewritten repeatedly by said endless chart-lasting-time width of face, under the condition that the transit delay has arisen, the condition that the old stream data of the endless record data 13 which suits the conditions of a stream data retrieval demand depending on the time amount width of face of said transit delay is rewritten produces it. For this reason, center equipment 2 carries out amendment count of the time amount section of the endless record data 13 which exists in this time from said endless chart-lasting-time width of face, time amount width of face of said transit delay, etc., and center equipment 2 can give a stream data read-out demand to local equipment 1 about the endless record data 13 of said amended time amount section, or can display said amended time amount section on an operator.
[0033] According to the gestalt 2 of this operation, as mentioned above, the Distributed-Data-Management means 11 of data control equipment 3 Since the endless chart-lasting-time width of face corresponding to the endless record data 13 which suits retrieval conditions is included in the retrieval result of endless record data and it was made to answer Even when the time delay according [the time amount width of face between the time of day which data control equipment 3 searched, and the time of day when center equipment 2 received the reply] to network transmission etc. cannot ignore greatly Center equipment 2 gives the stream data read-out demand of the endless record data of said time amount section which exists by this time amended from said endless chart-lasting-time width of face and said time delay to local equipment 1, or The effect which can display the right time amount section when endless record data exists on an operator is acquired.
[0034] In addition, although endless chart-lasting-time width of face was explained as time correction information in the above explanation, if the retrieval time of day in data control equipment 3 is further included in a retrieval result, it

is that center equipment 2 displays said retrieval time of day with the time amount section of endless record data as a retrieval result list, and it can specify whether it existed, when the endless record data which suits an operator at a pair necropsy wire rope affair was when. Moreover, if the endless chart-lasting-time width of face which center equipment 2 received is matched with local equipment 1 and held, unless the endless chart-lasting-time width of face concerned will be changed, it can ask for the time amount section of the endless record data which exists in the local equipment concerned for itself [center equipment 2].

[0035] Gestalt 3. drawing 4 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 3 of this operation is applied. In drawing 4, the sign same about a portion the same as that of drawing 1 or considerable is attached, and explanation is omitted. As for data control equipment (retrieval means) and 22, in drawing, the stream data (henceforth event record data) with which 20 is recorded on local equipment 1 and by which event record was carried out, and 21 are [a Distributed-Data-Management means (retrieval means) and 23] stream data index information.

[0036] Next, actuation is explained. The actuation about processing of the stream data which the stream entry of data in local equipment 1, are recording, read-out, a communication link, and the stream data in center equipment 2 received and received with the gestalt of this operation is the same as that of the gestalt 1 of said operation. Moreover, the event record data 20 is memorized by the storage of the gestalt of this operation.

[0037] Means-of-communications 9c of data control equipment 21 receives the stream data retrieval demand message which asks the whereabouts of the event record data 20 in the local equipment sent from center equipment 2. And the Distributed-Data-Management means 22 processes the stream data retrieval demand which received, and returns a stream data retrieval result message to center equipment 2 by means-of-communications 9c. The Distributed-Data-Management means 22 is managed here as stream data index information 23 which shows the whereabouts of the event record data 20 recorded on each local equipment in drawing 4. 23f of chart-lasting-time section information expressed with the recording start time of day and record end time of the event record to everything but encoded information 23e with each local equipment which are called input device 23c, such as information on the event itself, a camera, and a microphone, 23d of local equipment, coding methods, and coding rates, such as event identifier (event ID) 23a and type 23b, is included in this stream data index information 23 to each stream data.

[0038] For 23f of chart-lasting-time section information on the stream data index information 23 shown in drawing 4, the event generating time information 231 and the chart-lasting-time width-of-face information 232 before and behind that are described, and recording start time of day and record end time can be found by these. From center equipment 2, therefore, when [for example,] there is a stream data retrieval demand which specified the time amount section by the retrieval sentence as shown in (b) of drawing 5, Namely, when the whereabouts of the event record data 20 from time amount section 14:30 30 seconds on December 26, 96 in all local equipments to 14:40 30 seconds on December 26, 96 is asked, The Distributed-Data-Management means 22 [whether the event record data 20 which is satisfied with each local equipment of said retrieval conditions from 23f of chart-lasting-time sections of event record exists, and] If it exists, a retrieval result as searches any data from when to when there is from the stream data index information 23 and shows it to drawing 5 will be answered to center equipment 2 by means-of-communications 9c.

[0039] Drawing 5 shows what exists in the time amount section when event generating time of day was specified like event ID"ev103", and the example which exists in the time amount section specified by event recording start time of day although event generating time of day is outside the time amount section like event ID"ev104."

[0040] Since the information on local equipment or the time amount section of event record that the event record data 20 exists is included in a retrieval result, it points to center equipment 2 so that the time amount section may be specified to specific local equipment 1 and the desired event record data 20 may be transmitted, and it can display the transmitted event record data 20.

[0041] Data control equipment 21 is partly considered as a means to acquire the stream data index information 23 over the event record data 20. When the center equipment 2 by which one example was connected with local equipment 1 with the network or the signal line of dedication gives the alert for an event, while local equipment 1 performs event record, an event recorded message including the time amount section of the event record concerned is spontaneously transmitted to data control equipment 21, and the Distributed-Data-Management means 22 of data control equipment 21 changes the contents of the stream data index information 23.

[0042] Moreover, when the sensor equipment by which another example was connected with center equipment 2 with the network 5 or the signal line of dedication gives the alert for an event, while data control equipment 21 gives an

event record instruction to local equipment 1, the Distributed-Data-Management means 22 of data control equipment 21 changes the stream data index information 23.
[0043] In data control equipment 21 as mentioned above, the gestalt 3 of this operation -- getting twisted -- the Distributed-Data-Management means 22 It manages using the stream data index information 23 including the time amount section expressed with the recording start time of day and record end time of event record of the whereabouts of each event record data 20 recorded on local equipment 1. As opposed to the stream data retrieval demand message about the whereabouts of the event record data 20 by which event record was carried out which specified the time amount section received from center equipment 2 by means-of-communications 9c Since it was made to answer to center equipment 2 by means-of-communications 9c by making into a stream data retrieval result message local equipment 1, the time amount section, etc. when the event record data 20 which searches based on the stream data index information 23, and suits conditions exists, like the gestalt 1 of said operation Even when much local equipments exist, center equipment 2 can know local equipment, the time amount section, etc. when the event record data 20 which suits said conditions exists only by performing an inquiry once to data control equipment 21, and the effect that retrieval time is shortened sharply is acquired.
[0044] Moreover, in order to manage data control equipment 21 using the stream data index information 23, without moving the substance of event record data to local equipment 1, the effect which can control use of system resources, such as CPU, memory, and a network, is acquired.
[0045] Moreover, other information [demand / which is sent from center equipment 2 / stream data retrieval], such as not only assignment of the time amount section but an event identifier, a class of a type and coding, and an input device, can be performed as a retrieval parameter, and the whereabouts of event record data can be asked so that clearly from drawing 4.
[0046] Furthermore, it is manageable using stream data index information 23 including the time-amount section which regards time series data which were connected to local equipment 1, and which are not illustrated, such as measurement data from sensor equipment, and control data of equipment, as the same stream data as an image or voice, carries out event record of such time series data with local equipment 1, and is expressed with the recording start time of day and the record end time of event record in data-control equipment 21 in addition to a camera or a microphone.
[0047] In addition, it is possible to also constitute so that center equipment 2, local equipment, etc. with the coordination actuation by two or more data-control equipments, the alternative actuation at the time of failure, and a throughput may have the function of center equipment 2 like the gestalt 1 of said operation, and various data about local equipments in which it is shown that a certain local equipment is breaking down, such as information, may include in the stream data index information 23 shown in drawing 4.
[0048] Gestalt 4. drawing 6 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 4 of this operation is applied. In drawing 6, the sign same about a portion the same as that of drawing 1 and drawing 4 or considerable is attached, and explanation is omitted. For evacuation conservation equipment and 32, in drawing, evacuation data accumulation and a read-out means (an evacuation conservation means, evacuation conservation management tool), and 33 are [31 / the storage for evacuation conservation and 9d of evacuation conservation data and 34] means of communications of evacuation conservation equipment 31. As for data control equipment (retrieval means) and 42, 41 is [a Distributed-Data-Management means (retrieval means) and 43] stream data index information. Drawing 7 is explanatory drawing to the storage 34 for evacuation conservation of the evacuation conservation equipment 31 of stream data showing the method of evacuation conservation. In drawing, the header information table of the event record data 20 with which 51 carried out the evacuation conservation data control table, and 52 carried out evacuation conservation of an evacuation conservation substance file and 53, and 54 are the header information tables of the endless record data 13 which carried out evacuation conservation.
[0049] Drawing 8 is explanatory drawing showing the stream data index information for managing the whereabouts of the evacuation conservation data 33 with which the Distributed-Data-Management means 42 is recorded on each evacuation conservation equipment 31, and the header information table of the event record data with which 55 carried out evacuation conservation of an evacuation conservation data control table and 56, and 57 are the header information tables of the endless record data 13 which carried out evacuation conservation. Drawing 9 is explanatory drawing showing the retrieval result which data control equipment 41 answered to center equipment 2 by means-of-communications 9c, and the retrieval result about the evacuation conservation data with which 58 fills retrieval

conditions, and the event record data in which 59 carried out evacuation conservation, and 60 are as a result of [about the endless record data which carried out evacuation conservation] retrieval.
[0050] Next, actuation is explained. The actuation about processing of the stream data which the stream entry of data in local equipment 1, are recording, read-out, a communication link, and the stream data in center equipment 2 received and received with the gestalt of this operation is the same as that of the gestalt 1 of said operation, and the gestalt 4 of said operation.
[0051] In order that evacuation conservation equipment 31 may carry out evacuation conservation of the stream data based on endless record of the specified time amount section which exists in the specified local equipment 1 by the command from center equipment 2 etc., and event record, it outputs the transmission demand of the stream data which corresponds to the local equipment concerned by 9d of means of communications, and receives stream data. And while evacuation data accumulation and the read-out means 32 record the received stream data on the storage 34 for evacuation conservation, such as a hard disk, the recorded stream data is read according to the demand from center equipment 2. The stream data by which reading appearance was carried out is transmitted to center equipment 2 through a network 5 by 9d of means of communications, and is received by means-of-communications 9b of center equipment 2.
[0052] The method of the evacuation conservation to the evacuation conservation equipment 31 of said stream data in this case For example, the identifier and evacuation conservation time of day of data which were evacuated to the evacuation conservation data control table 51 as shown in drawing 7, Describe the reference pointer to the class and header information table of stream data, the substance file name of evacuation conservation data, etc., and evacuation data accumulation and the read-out means 32 refer to this evacuation conservation data control table 51. the substance of the specified stream data by which evacuation conservation is carried out -- the -- it passes and DDA information is read. In case evacuation conservation of the substance of stream data is carried out, the header information of the stream data based on the endless record and event record which carried out evacuation conservation is made to transmit from the local equipment 1 concerned, and is acquired.
[0053] Means-of-communications 9c of data control equipment 41 receives the stream data retrieval demand message which asks the whereabouts of the stream data which exists in the evacuation conservation equipment 31 sent from center equipment 2, and by which evacuation conservation was carried out, and the Distributed-Data-Management means 42 processes the stream data retrieval demand which received, and returns a stream data retrieval result message to center equipment 2 by means-of-communications 9c. The Distributed-Data-Management means 42 is managed here using the stream data index information that the whereabouts of the evacuation conservation data 33 recorded on each evacuation conservation equipment 31 is shown in drawing 8. The evacuation conservation identifier to each stream data, and the class which and carried out evacuation conservation and header information of data are described by this stream data index information, and the time amount section expressed with the recording start time of day and record end time in each local equipment is included in DDA information to ** at it. [the class] [evacuation conservation]
[0054] Center equipment 2 Therefore, when [for example,] the whereabouts of the stream data recorded in local equipment on from time amount section 14:30 30 seconds on December 26, 96 which exists in all evacuation conservation equipments before 14:40 30 seconds on December 26, 96 is asked, It searches the data from when to when if the Distributed-Data-Management means 42 exists [whether the stream data with which it is satisfied of said retrieval conditions from the time amount section described by header information exists in evacuation conservation equipment 31, and], it has. And a retrieval result as shown in drawing 9 is answered to center equipment 2 by means-of-communications 9c. The retrieval result shown in drawing 9 shows the case where the stream data based on the event record or endless record which exists in two or more evacuation conservation equipments 31 by which evacuation conservation was carried out suits retrieval conditions.
[0055] Since the information on evacuation conservation equipment 31 or the time amount section that stream data exists is included in a retrieval result, it points to center equipment 2 so that the time amount section may be specified to specific evacuation conservation equipment 31 and desired stream data may be transmitted, and it can display the transmitted stream data.
[0056] Some are considered as a means by which data control equipment 41 acquires the stream data index information about the stream data by which evacuation conservation is carried out. Evacuation conservation equipment 31 transmits the message about evacuation conservation to data control equipment 41 spontaneously, while performing evacuation conservation, and as for one example, the Distributed-Data-Management means 42 changes the contents of stream data

index information. Moreover, data control equipment 41 receives the evacuation conservation demand from the outside, data control equipment 41 outputs an evacuation conservation instruction to evacuation conservation equipment 31, and, as for another example, the Distributed-Data-Management means 42 of data control equipment 41 changes stream data index information.

[0057] As mentioned above, according to the gestalt 4 of this operation, it sets to data control equipment 41. It manages using stream data index information including the time amount section when the Distributed-Data-Management means 42 is expressed with the recording start time of day when the stream data concerned was recorded on evacuation conservation equipment 31 with local equipment 1 in the whereabouts of the stream data by which evacuation conservation is carried out, and record end time. It searches from stream data index information to the stream data retrieval demand message about the whereabouts of said stream data by which evacuation conservation was carried out which specified the time amount section received from center equipment 2 by means-of-communications 9c. Since it was made to reply to center equipment 2 by means-of-communications 9c by making into a stream data retrieval result message evacuation conservation equipment 31, the time amount section, etc. when the stream data which suits conditions exists Like the gestalt 1 of said operation, even when much evacuation conservation equipments exist, center equipment 2 is a one-time inquiry. The information about the whereabouts about evacuation conservation equipment 31, the time amount section, etc. that the stream data which suits conditions exists can be acquired, and the effect that retrieval time is shortened sharply is acquired.

[0058] Moreover, since data control equipment 41 is managed using the stream data index information 43, without moving the substance of the stream data recorded on evacuation conservation equipment 31, it can control use of system resources, such as CPU, memory, and a network.

[0059] Moreover, it can carry out by the ability make into a retrieval parameter other information of the event identifier, the class of a type and coding, the input device, and local equipment which are describe by not only assignment of the time amount section but header information in the stream data retrieval demand from center equipment 2, and the whereabouts of evacuation conservation data can be ask so that clearly from the stream data index information showed in drawing 8. Furthermore, time series data, such as measurement data from the sensor equipment connected to local equipment in addition to the camera or the microphone and control data of equipment, are regarded as the same stream data as an image or voice. Event record is carried out. such time series data -- local equipment 1 -- endless record -- Evacuation conservation can be carried out at evacuation conservation equipment 31, and it can also manage in data control equipment 41 using stream data index information including the time amount section expressed by evacuation conservation equipment 31 in the evacuation conservation data which carried out evacuation conservation by the recording start time of day and record end time in local equipment.

[0060] In addition, the coordination actuation by two or more data control equipments, the alternative actuation at the time of failure generating, evacuation conservation equipment with a throughput, center equipment, or local equipment is possible also for a configuration with the function of center equipment like the gestalt 1 of said operation. Moreover, various data about evacuation conservation equipment, such as information about the evacuation conservation equipment which is breaking down, may be included in the stream data index information shown in drawing 8.

[0061] The acquisition method and supervisory equipment of a gestalt 5 of gestalt 5. of operation, next implementation of this invention are explained. The configuration of the supervisory equipment with which the acquisition method of the gestalt 5 of this operation is applied is the same as the configuration shown in drawing 6 of the gestalt 4 of said operation, and refer to drawing 6 for it by the following explanation. Drawing 10 is explanatory drawing showing the stream data index information on supervisory equipment that the acquisition method of the gestalt 5 of this operation is applied, and, as for endless record index information and 62, 61 is [event record index information and 63] evacuation conservation index information in drawing. Drawing 11 is explanatory drawing showing a retrieval result, and, as for endless record header information and 67, 66 is [event record header information and 68] evacuation conservation header information in drawing.

[0062] Next, actuation is explained. The actuation about processing of the stream data which the stream entry of data in local equipment 1, are recording, read-out, a communication link, and the stream data in center equipment 2 received and received with the gestalt of this operation is the same as that of the gestalt 4 of said operation.

[0063] Means-of-communications 9c of the data control equipment 41 of the gestalt 4 of this operation receives the stream data retrieval demand message which asks the whereabouts of the stream data recorded on the local equipment 1 or the evacuation conservation equipment 31 sent from center equipment 2, and the Distributed-Data-Management

means 42 processes the stream data retrieval demand concerned, and returns a stream data retrieval result message to center equipment 2 by means-of-communications 9c. The Distributed-Data-Management means 42 is managed here using the stream data index information which shows the whereabouts of the various stream data recorded on the storage 34 for evacuation conservation of the storage 4 of local equipment 1, or evacuation conservation equipment 31 in drawing 10.

[0064] The endless record index information 61 shown in drawing 10 is the same as the stream data index information on the gestalt 1 of said operation shown in drawing 1. Moreover, the event record index information 62 is the same as the stream data index information on the gestalt 3 of said operation shown in drawing 4. The evacuation conservation index information 63 is the same as the stream data index information on the gestalt 4 of said operation shown in drawing 8, and the stream data index information on the gestalt 5 of this operation consists of pointer tables 64 showing each [these] stream data index information and its whereabouts. The time amount section expressed with the recording start time of day and record end time in each local equipment other than information, such as input device [, such as a camera and a microphone,], local equipment, and coding relation, event relation, and evacuation conservation relation, is included in said each stream data index information. [to each stream data]

[0065] Therefore, when center equipment 2 carries out the stream data retrieval demand which specified the time amount section, The Distributed-Data-Management means 42 from the time amount section of various stream data [whether the stream data which is satisfied with local equipment 1 or evacuation conservation equipment 31 of retrieval conditions exists, and] If it exists, the retrieval result which searches any data from when to when there is from said each stream data index information 61, 62, and 63, and shows it to drawing 11 will be answered to center equipment 2 by means-of-communications 9c.

[0066] Drawing 11 shows that the stream data by which evacuation conservation was carried out conforms to the endless record data recorded on local equipment 1 and event record data, and evacuation conservation equipment 31 at retrieval conditions. The retrieval demand at this time out of the stream data recorded on all local equipments and evacuation conservation equipments It is what asks the whereabouts of the stream data currently recorded on local equipment at the assignment time amount section. Endless record, event record, and existing again make the parameter the time amount section which does not carry out assignment, such as local equipment or evacuation conservation equipment, but is expressed with the recording start time of day and record end time in the unified local equipment.

[0067] Since the information on the local equipment with which stream data exists, evacuation conservation equipment, and the time amount section is included in a retrieval result, it points to center equipment 2 so that the time amount section may be specified to specific local equipment and evacuation conservation equipment and desired stream data may be transmitted, and it can display the transmitted stream data.

[0068] A means by which data control equipment 41 acquires the stream data index information over endless record, event record, and evacuation conservation can consider some methods which were stated in the example 1, the example 3, and the example 4.

[0069] As mentioned above, according to the gestalt 5 of this operation, it sets to data control equipment 41. The endless chart-lasting-time width of face of the endless record data with which the Distributed-Data-Management means 42 is recorded on local equipment 1, The time amount section expressed with the recording start time of day and record end time of the event record data recorded on local equipment 1, Stream data index information including the time amount section expressed with the recording start time of day and record end time in local equipment 1 of the evacuation conservation data recorded on evacuation conservation equipment 31 is managed. Said stream data index information is retrieved to the stream data retrieval demand message about the whereabouts of the stream data by which event endless record and record or evacuation conservation was carried out which specified the time amount section received from center equipment 2 by means-of-communications 9c. And since it replies to center equipment 2 by means-of-communications 9c by making into a stream data retrieval result message the local equipment 1 with which the stream data which suits said conditions exists, evacuation conservation equipment 31, the time amount section, etc. Like the gestalt 1 of said operation, even when much local equipment and evacuation conservation equipment exist, center equipment only performs an inquiry once. The information about the local equipment 1 with which the stream data which suits said conditions exists, evacuation conservation equipment 31, the time amount section, etc. can be acquired, and retrieval time is shortened sharply.

[0070] Moreover, since data control equipment 41 is managed using said stream data index information, without moving the substance of the stream data recorded on local equipment 1 or evacuation conservation equipment 31, it can

control use of system resources, such as CPU, memory, and a network.
[0071] Furthermore, it can be searched in the time amount section expressed with the recording start time of day and record end time in the unified local equipment being unconscious of local equipment or evacuation conservation equipment that endless record, event record, and the stream data that suits said conditions again exists, and the inquiry procedure of center equipment 2 is simplified.
[0072] Moreover, the whereabouts of stream data can be asked by performing other information [demand / which is sent from center equipment 2 / stream data retrieval], such as not only assignment of the time amount section but an event identifier, a class of a type and coding, and an input device, as a retrieval parameter so that clearly from drawing 10.
[0073] moreover, time series data which were connected to local equipment 1 in addition to the camera or the microphone and which are not illustrated, such as measurement data from sensor equipment, and control data of equipment, -- as the same stream data as an image or voice -- catching -- such time series data -- local equipment 1 -- endless record -- event record is carried out and evacuation conservation is carried out at evacuation conservation equipment 31. And said time series data are also manageable using stream data index information including the time amount section expressed with endless chart-lasting-time width of face, and the recording start time of day and record end time of event record in data control equipment 41, the time amount section expressed with the recording start time of day and record end time of evacuation conservation data in local equipment.
[0074] In addition, the configuration which center equipment with the coordination actuation by two or more data-control equipments, the alternative actuation at the time of failure, and a throughput, local equipment, etc. equip with the function of center equipment is possible, and the various data about local equipments and evacuation conservation equipments, such as the information which shows the local equipment which is breaking down to the stream data index information shown in drawing 10, and evacuation conservation equipment, may include like the gestalt 1 of said operation.
[0075] Gestalt 6. drawing 12 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 6 of this operation is applied. In drawing 12, the sign same about a portion the same as that of drawing 1 or considerable is attached, and explanation is omitted. In drawing, the time-of-day agreement means formed in local equipment 1 for 71 to make the time of day in the local equipment 1, the center equipment 2, and the data control equipment 41 on a network 5 agree, a time-of-day agreement means by which 72 was similarly prepared in center equipment 2, and 73 are the time-of-day agreement means similarly formed in data control equipment 3.
[0076] Next, actuation is explained. The stream entry of data in the local equipment 1 of the gestalt of this operation, are recording, read-out, a communication link and processing of the stream data which the stream data in center equipment 2 received and received, Distributed Data Management [in / further / data control equipment 3], and stream data retrieval processing are the same as that of the gestalt 1 of said operation.
[0077] Since the local equipment 1, the center equipment 2, and the data control equipment 3 which were connected to the network 5 have the time-of-day agreement means 71, 72, and 73, these time-of-day agreement means sets the clock of local equipment 1, center equipment 2, and data control equipment 3 at the same common time of day by the whole system. These time-of-day agreement means 71, 72, and 73 are realized by the technology of common knowledge called NTP (Network Time Protocol) equipped by UNIX or Windows.
[0078] As explained above, according to the gestalt 6 of this operation, with each time-of-day agreement means 71, 72, and 73 of local equipment 1, center equipment 2, and data control equipment 3 Since it becomes possible to set a self clock at system-wide common time of day, local equipment 1, center equipment 2, and data control equipment 3 The precision of the clock of local equipment 1, center equipment 2, and data control equipment 3 differs, and even when the time-of-day difference which cannot be disregarded if it remains as it is arises, it is effective in management and retrieval of stream data without a time-of-day difference being realizable.
[0079] In addition, although the gestalt of this operation explained as what applies a time-of-day agreement means to the configuration of the gestalt 1 of said operation, you may be the configuration which applies a time-of-day agreement means from the gestalt 2 of said operation to the gestalt 5 of said operation, and the same effect as the case where it applies to the gestalt 1 of said operation can be acquired.
[0080] Gestalt 7. drawing 13 of operation is the block diagram showing the configuration of the supervisory equipment with which the acquisition method of the gestalt 7 of this operation is applied. Drawing 14 is explanatory drawing

showing a time-of-day difference table. In drawing 13, the sign same about a portion the same as that of drawing 1 or considerable is attached, and explanation is omitted. In drawing 13, 81 is a time-of-day difference measurement means for data control equipment (correction value operation means) 3 to measure a time-of-day difference with the time of day which the clock of the time of day which the self clock shows, local equipment 1, and center equipment 2 shows.
[0081] Next, actuation is explained. The stream entry of data in the local equipment 1 of the gestalt of this operation, are recording, read-out, a communication link and processing of the stream data which the stream data in center equipment 2 received and received, Distributed Data Management [in / further / data control equipment 3], and stream data retrieval processing are the same as that of the gestalt 1 of said operation.
[0082] Data control equipment 3 measures the time-of-day difference of the time of day which a self clock shows with the time-of-day difference measurement means 81, and the time of day which the clock of local equipment 1 or center equipment 2 shows. If delivery and partner equipment receive the time-of-day query message concerned for the time-of-day query message to which the data control means 3 added the self time stump as an example of the measurement means in this case to partner equipment, the return message which added the self time stump apart from said time stump immediately will be returned to data control equipment 3. With data control equipment 3, the transit delay time amount of a round trip is calculated from the time stump when transmitting self time of day and said time-of-day query message of a clock at the time of receiving the return message concerned, and a time-of-day difference is calculated from the time stump of the transit delay time amount and partner equipment. An accurate time-of-day difference can be searched for by equalizing the result of inquiry processing of multiple times, if it is the network with little fluctuation and equipment of a transit delay. Thus, the measured time-of-day difference is held as a time-of-day difference table as shown in drawing 14.
[0083] On the other hand, if there is a stream data retrieval demand which specified the time amount section from center equipment 2, data control equipment 3 will carry out a pair necropsy funiculus to stream data index information, after amending a mutual time-of-day difference with reference to said time-of-day difference table. For example, since the time-of-day difference of center equipment cent1 and local equipment Loc1 serves as **TL1-**Tc1 in case the stream data which exists in local equipment Loc1 with time-of-day difference **TL1 is searched to the retrieval demand from center equipment cent1 with time-of-day difference **Tc1 with data control equipment 3, only this time-of-day difference amends the time-amount section of stream data index information, and retrieval processing is carried out. Although a retrieval result may be the same as that of the contents shown in drawing 2, if the time-of-day difference of center equipment 2 and local equipment 1 is added, center equipment 2 can require transmission of stream data from local equipment 1 in said amended time amount section.
[0084] As mentioned above, according to the gestalt 7 of this operation, it sets to data control equipment 3. The time-of-day difference measurement means 81 measures the time-of-day difference produced between the clock of data control equipment 3, and the clock of each local equipment 1 or center equipment 2, and creates a time-of-day difference table. As opposed to the stream data retrieval demand which specified the time amount section from center equipment 2 The Distributed-Data-Management means 11 retrieves stream data index information, after said time-of-day difference table amends the time-of-day difference of each equipment. The local equipment 1, the time-of-day difference in which the stream data which suits conditions exists, The time amount section etc. can be answered as a retrieval result, and even when the precision of the clock of local equipment 1, center equipment 2, and data control equipment 3 differs and the time-of-day difference between each clock cannot be disregarded, it is effective in management of stream data without a time-of-day difference and retrieval being realizable.
[0085]
[Effect of the Invention] The stream data about the candidate for a monitor distributed and arranged on a network The time of day which inputted stream data and its stream data, or the recorded time of day Record on a storage means equipped only with the limited storage capacity, and the stream data retrieval information about the whereabouts and said time of day of this recorded stream data is managed on a network. While obtaining the retrieval result which searches stream data based on the retrieval conditions containing said time of day, and contains the whereabouts of stream data Based on the whereabouts of the stream data obtained by retrieval, the stream data searched from the storage which recorded the stream data concerned is collected. Communication link Since information which contains stream data on a network is transmitted and received and stream data was collected The stream data which it becomes unnecessary to ask no media on a network the whereabouts of the stream data currently recorded, and is going to collect them is searched at a high speed, and there is an efficiently collectable effect.

[0086] Moreover, the local equipment which receives the stream data about the candidate for a monitor distributed and arranged on a network, The storage with which the storage capacity which memorizes the time of day which inputted the stream data obtained from the local equipment and its stream data, or the recorded time of day was restricted, The data control equipment which manages on a network the stream data retrieval information about the whereabouts and said time of day of said stream data currently recorded on this storage, As opposed to the stream data retrieval information managed with this data control equipment A retrieval means to obtain the retrieval result which searches based on the retrieval conditions containing said time of day, and contains the whereabouts of stream data, The center equipment which collects stream data from the storage which recorded this stream data based on the whereabouts of said stream data which it is as a result of [which was obtained by this retrieval means] retrieval, Since **** supervisory equipment was constituted, the means of communications for transmitting and receiving information which contains stream data on a network Without asking all the media on a network the whereabouts of the stream data currently recorded, the stream data which it is going to collect is searched at a high speed, and there is an efficiently collectable effect.

[0087] Moreover, storage records the newest stream data endlessly by rewriting one by one by the newest stream data which should record the old stream data currently recorded. Stream data retrieval information has the retrieval information on chart-lasting-time width of face according to the storage capacity of storage. Data control equipment since the supervisory equipment which manages the whereabouts of the stream data recorded on endless based on stream data retrieval information was constituted, even if it is the storage of the limited storage capacity, always new data predetermined within a time is saved, and there is an effect with which the candidate for retrieval is presented as stream data.

[0088] Storage records the stream data corresponding to the event as event record, when an event occurs. Moreover, stream data retrieval information It has information including the time amount section at the time of event record of the stream data being carried out. Data control equipment Since the supervisory equipment which manages the whereabouts of the stream data by which event record was carried out was constituted It is effective in the ability to search the stream data based on the event record which it becomes unnecessary to ask no storage on a network the whereabouts of the stream data based on event record, and center equipment tends to collect at a high speed.

[0089] It has the storage for evacuation conservation which carries out evacuation conservation of the information about the stream data and time of day which were recorded on storage. Moreover, stream data retrieval information Since it has the information about the stream data by which evacuation conservation was carried out, and said time of day in the storage for evacuation conservation and data control equipment constituted the supervisory equipment which manages the whereabouts of the stream data by which evacuation conservation was carried out Center equipment searches the whereabouts about the storage for evacuation conservation of the stream data which it is going to collect at a high speed based on retrieval conditions including said time amount section, and is effective in stream data being efficiently collectable.

[0090] moreover, the whereabouts of stream data which is going to collect center equipment since supervisory equipment equipped with the time-of-day agreement means for unifying the time of day of local equipment and data control equipment and center equipment was constituted -- **** -- it refers to the retrieval conditions by the time of day-izing [time of day] and managed at a high speed, and is effective in stream data being efficiently collectable.

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 1 of implementation of this invention is applied.

[Drawing 2] It is explanatory drawing showing the retrieval result of the supervisory equipment with which the acquisition method by the gestalt 1 of implementation of this invention is applied.

[Drawing 3] It is explanatory drawing showing the retrieval result of the supervisory equipment with which the acquisition method by the gestalt 2 of implementation of this invention is applied.

[Drawing 4] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 3 of implementation of this invention is applied.

[Drawing 5] It is explanatory drawing showing the retrieval result of the supervisory equipment with which the acquisition method by the gestalt 3 of implementation of this invention is applied.

[Drawing 6] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 4 of implementation of this invention is applied.

[Drawing 7] It is explanatory drawing showing the method of the evacuation conservation to the storage for evacuation conservation of the stream data in the supervisory equipment with which the acquisition method by the gestalt 4 of implementation of this invention is applied.
[Drawing 8] It is explanatory drawing showing the stream data index information for managing the whereabouts of the evacuation conservation data recorded on the evacuation conservation equipment by the Distributed-Data-Management means in the supervisory equipment with which the acquisition method by the gestalt 4 of implementation of this invention is applied.
[Drawing 9] It is explanatory drawing showing the retrieval result to which it replied to center equipment from the data control equipment in the supervisory equipment with which the acquisition method by the gestalt 4 of implementation of this invention is applied.
[Drawing 10] It is explanatory drawing showing the stream data index information on supervisory equipment that the acquisition method of the gestalt 5 of implementation of this invention is applied.
[Drawing 11] It is explanatory drawing showing the retrieval result of the supervisory equipment with which the acquisition method of the gestalt 5 of implementation of this invention is applied.
[Drawing 12] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 6 of implementation of this invention is applied.
[Drawing 13] It is the block diagram showing the configuration of the supervisory equipment with which the acquisition method by the gestalt 7 of implementation of this invention is applied.
[Drawing 14] It is explanatory drawing showing the configuration of the time-of-day difference table in the supervisory equipment with which the acquisition method by the gestalt 7 of implementation of this invention is applied.
[Drawing 15] It is the block diagram showing the configuration of conventional supervisory equipment.
[Drawing 16] It is explanatory drawing showing the recording method of the stream data in conventional supervisory equipment.
[Drawing 17] It is explanatory drawing showing the event recording table in the recording method of the stream data of conventional supervisory equipment.
[Description of Notations]
1 Local Equipment, 2 Center Equipment, 3 Data Control Equipment (Retrieval Means, Correction Value Operation Means), 4 Storage, 5 A network, 9a, 9b, 9c Means of communications, 11, 22, 42 A Distributed-Data-Management means (retrieval means), 12, 23, 43 Stream data index information, 13 Endless record data (stream data), 20 Event record data (stream data), 21 41 Data control equipment (retrieval means), 32 Evacuation data accumulation and a read-out means (an evacuation conservation means, evacuation conservation management tool), 34 The storage for evacuation conservation, 71, 72, 73 A time-of-day agreement means, 81 Time-of-day difference measurement means.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] A acquisition method characterized by providing the following A storage process which records stream data obtained about a candidate for a monitor, respectively on media of storage capacity restricted on a network, respectively A management process in which stream data index information about the whereabouts of said stream data currently recorded on said media by this storage process is intensively managed on said network A retrieval process in which retrieve said stream data index information intensively managed in this management process based on retrieval conditions, and a retrieval result about the whereabouts of stream data is obtained The stream data-acquisition process acquire said stream data from said media which recorded the stream data concerned based on a retrieval result by this retrieval process based on the whereabouts of stream data which satisfies said retrieval conditions acquired according to a stream data whereabouts acquisition process which acquires the whereabouts of stream data which satisfies said retrieval conditions, and this stream data whereabouts acquisition process, and collect stream data about said candidate for a monitor
[Claim 2] In a storage process, media of limited storage capacity by using it for endless Stream data which was obtained about a candidate for a monitor, respectively and which is continuing in time is recorded on said media distributed on a network, respectively. In a management process Management about the whereabouts of each of said stream data is performed based on stream data index information containing chart-lasting-time width of face according to storage capacity of said media at the time of said stream data being endlessly recorded on said media distributed on a network, respectively. As opposed to said stream data index information which contains said chart-lasting-time width of face in a retrieval process The whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day is searched. In said stream data whereabouts acquisition process A acquisition method according to claim 1 characterized by acquiring a retrieval result about the whereabouts of said stream data which satisfies retrieval conditions containing said time of day.
[Claim 3] In a storage process, event record of the stream data obtained about a candidate for a monitor, respectively is carried out at media of limited storage capacity distributed on a network, respectively. In a management process Management about the whereabouts of each of said stream data is performed based on stream data index information which includes the section about event generating time of day and chart lasting time at the time of event record of said stream data being carried out, respectively in said media distributed on a network. The whereabouts of stream data by which event record was carried out which is satisfied with a retrieval process of the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information is searched. A acquisition method according to claim 1 or 2 characterized by acquiring a retrieval result about the whereabouts of stream data by which event record was carried out which is satisfied with said stream data whereabouts acquisition process of retrieval conditions containing said time of day.
[Claim 4] A acquisition method according to claim 3 characterized by performing management about the whereabouts of event record stream data based on stream data index information which contains chart-lasting-time width of face before and behind event generating time of day at the time of event record of the stream data being carried out, respectively, and the event generating time of day concerned in media distributed on a network in a management process.
[Claim 5] By using media of limited storage capacity for endless, were recorded on said media distributed on a network according to a storage process, respectively. Stream data which was obtained about a candidate for a monitor,

respectively and which is continuing in time to media for evacuation conservation An evacuation conservation process which records and carries out evacuation conservation, [re-] Header information which described the attribute of stream data including the chart-lasting-time section at the time of recording endlessly said stream data re-recorded in this evacuation conservation process on said media of the stream data concerned, It has an evacuation conservation management process managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Based on stream data index information including the chart-lasting-time section at the time of said stream data re-recorded on said media for evacuation conservation being endlessly recorded on said media in a management process Management about the whereabouts of said stream data currently re-recorded on said media for evacuation conservation is performed. In a retrieval process The whereabouts about said media for evacuation conservation which are re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section is searched to said stream data index information including said chart-lasting-time section. A retrieval result about said media for evacuation conservation which are re-recording said stream data which is satisfied with said stream data whereabouts acquisition process of said retrieval conditions is acquired. A stream data acquisition process based on said retrieval result acquired according to said stream data whereabouts acquisition process According to said evacuation conservation management process from said media for evacuation conservation which re-recorded the stream data concerned A acquisition method given [of claim 1 to the claims 4 characterized by acquiring said stream data managed and collecting stream data about said candidate for a monitor] in any 1 term.

[Claim 6] Stream data obtained about a candidate for a monitor by which event record was carried out, respectively by media distributed on a network according to a storage process, respectively to media for evacuation conservation An evacuation conservation process which records and carries out evacuation conservation, [re-] Header information which described the attribute of stream data containing event generating time of day and chart-lasting-time width of face at the time of carrying out event record of said stream data re-recorded in this evacuation conservation process at said media of the stream data concerned, It has an evacuation conservation management process managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. In a management process To said media for evacuation conservation Management about the whereabouts of said stream data currently re-recorded on said media for evacuation conservation based on stream data index information containing event generating time of day and chart-lasting-time width of face at the time of event record of said re-recorded stream data being carried out at said media is performed. In a retrieval process The whereabouts about said media for evacuation conservation which are re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section is searched to said stream data index information. A retrieval result about said media for evacuation conservation which are re-recording said stream data which is satisfied with said stream data whereabouts acquisition process of said retrieval conditions is acquired. A stream data acquisition process based on said retrieval result acquired according to said stream data whereabouts acquisition process According to said evacuation conservation management process from said media for evacuation conservation which re-recorded the stream data concerned A acquisition method given [of claim 1 to the claims 5 characterized by acquiring stream data based on said event record managed, and collecting stream data about said candidate for a monitor] in any 1 term.

[Claim 7] It has a time-of-day unification process for unifying time of day on a network. In a management process The whereabouts of stream data currently recorded on media distributed on a network, respectively It manages using stream data index information based on time of day unification-ized in said time-of-day unification process. In a retrieval process The whereabouts of stream data which satisfies said retrieval conditions to said stream data index information based on retrieval conditions including assignment by said unification-ized time of day is searched. A acquisition method given [of claim 2 to the claims 6 characterized by acquiring a retrieval result about the whereabouts of stream data which is satisfied with said stream data whereabouts acquisition process of retrieval conditions including assignment by said unification-ized time of day] in any 1 term.

[Claim 8] It has the following and correction value calculated in said correction value operation process while managing the whereabouts of each of said stream data based on stream data index information on stream data currently recorded on media distributed on a network in a management process, respectively is managed. In a retrieval process

Time of day specified as retrieval conditions and time of day in a retrieval result are amended to said stream data index information based on said correction value managed in said management process. The whereabouts of stream data which satisfies said retrieval conditions is searched. In a stream data whereabouts acquisition process A retrieval result of said stream data index information about the whereabouts of stream data amended when retrieval was performed in said retrieval process is acquired. In a stream data acquisition process A acquisition method given [of claim 2 to the claims 6 characterized by acquiring the stream data concerned from said media which recorded stream data with which it is satisfied of said retrieval conditions based on said retrieval result acquired according to said stream data whereabouts acquisition process] in any 1 term. A time-of-day difference measurement process which measures a time-of-day difference generated between the current time information concerned at the time of delivering and receiving current time information about time of day currently used in processing of stream data which distributes on a network and is performed, respectively on said network, and delivering and receiving said current time information A correction value operation process which delivered and received said current time information on said network, while is set and searched for based on said time-of-day difference which measured correction value about time of day currently used by processing of said stream data in said time-of-day difference measurement process

[Claim 9] A stream data acquisition process based on a retrieval result of amended stream data index information which was acquired in a stream data whereabouts acquisition process Time difference between media produced between said media at the time of acquiring said stream data from media which recorded stream data with which are satisfied of retrieval conditions is got to know. A acquisition method according to claim 7 or 8 characterized by acquiring the stream data concerned from said media which recorded stream data with which are satisfied of retrieval conditions amended based on time difference between the media concerned.

[Claim 10] It has a time-of-day unification process for unifying time of day on a network. In an evacuation conservation management process Said stream data re-recorded in an evacuation conservation process is managed based on time of day unified in said time-of-day unification process. In a management process It manages using stream data index information based on time of day which unification-ized the whereabouts of stream data currently re-recorded on media for evacuation conservation in said time-of-day unification process. In a retrieval process The whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions including assignment by said unification-ized time of day is searched about media for evacuation conservation to said stream data index information. A acquisition method given [of claim 5 to the claims 9 characterized by acquiring the whereabouts of stream data which is satisfied with said stream data whereabouts acquisition process of retrieval conditions including assignment by said unification-ized time of day from a result of said retrieval] in any 1 term.

[Claim 11] Have the following and correction value calculated in said correction value operation process while managing the whereabouts of said stream data in a management process based on stream data index information on stream data currently re-recorded on media for evacuation conservation is managed. In a retrieval process, time of day specified as said stream data index information as a pair necropsy wire rope affair and time of day in a retrieval result are amended based on said correction value managed in said management process. The whereabouts about said media for evacuation conservation of stream data with which are satisfied of said retrieval conditions is searched. In a stream data whereabouts acquisition process A retrieval result of said stream data index information about the whereabouts of said amended stream data is acquired. In a stream data acquisition process Based on said retrieval result acquired according to said stream data whereabouts acquisition process A acquisition method given [of claim 5 to the claims 9 characterized by acquiring the stream data concerned managed according to an evacuation conservation management process from said media for evacuation conservation which recorded stream data with which are satisfied of said retrieval conditions] in any 1 term. A time-of-day difference measurement process which measures a time-of-day difference generated between the current time information concerned at the time of delivering and receiving current time information about time of day currently used in processing of stream data which distributes on a network and is performed, respectively on said network, and delivering and receiving said current time information A correction value operation process which delivered and received said current time information on said network, while is set and searched for based on said time-of-day difference which measured correction value about time of day currently used by processing of said stream data in said time-of-day difference measurement process

[Claim 12] A correction value operation process is a acquisition method according to claim 8 or 11 characterized by calculating correction value based on a time-of-day difference including a transmission-time difference by transmission time taken to deliver and receive current time information.

[Claim 13] A stream data acquisition process based on a retrieval result of amended stream data index information which was acquired in a stream data whereabouts acquisition process Time difference between media produced between said media for evacuation conservation at the time of acquiring said stream data from media for evacuation conservation which recorded stream data with which are satisfied of retrieval conditions is got to know. A acquisition method according to claim 11 or 12 characterized by acquiring the stream data concerned from said media for evacuation conservation which recorded stream data with which it is satisfied of retrieval conditions based on time difference between the media concerned.
[Claim 14] Chart-lasting-time width of face of stream data currently endlessly recorded on media distributed on a network in a management process, respectively, The whereabouts of each of said stream data is managed based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. The whereabouts of stream data which is satisfied with a retrieval process of the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information is searched. A acquisition method given [of claim 2 to the claims 9 characterized by acquiring a retrieval result of said stream data index information are satisfied with said stream data whereabouts acquisition process of said retrieval conditions] in any 1 term.
[Claim 15] The acquisition method according to claim 14 characterized by to acquire the retrieval result about the whereabouts of the stream data containing the recording start time of day and the record end time of the stream data which searches the whereabouts of stream data which is satisfied with a retrieval process of the retrieval conditions concerned based on retrieval conditions and current time which contains time of day and time width of face which specifies stream data to stream data index information, and is satisfied with a stream data whereabouts acquisition process of said retrieval conditions.
[Claim 16] A acquisition method according to claim 15 characterized by acquiring a retrieval result about the whereabouts of stream data containing endless chart-lasting-time width of face of media which recorded stream data which is satisfied with a stream data whereabouts acquisition process of recording start time of day, record end time, and said retrieval conditions of stream data with which are satisfied of retrieval conditions.
[Claim 17] Chart-lasting-time width of face of stream data by which endless record is carried out in a management process at media distributed on a network, respectively, The whereabouts of each of said stream data is managed based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. Said stream data index information is received in a retrieval process. A generating means of said stream data, The whereabouts of stream data which satisfies the retrieval conditions concerned by making data-processing format of said stream data etc. into retrieval conditions is searched. In said stream data whereabouts acquisition process A acquisition method according to claim 1 characterized by acquiring a retrieval result of said stream data index information that said retrieval conditions are satisfied.
[Claim 18] Chart-lasting-time width of face before and behind event generating time of day for every media which carried out event record of the stream data in a management process, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. is managed. The whereabouts of stream data by which event record is carried out which is satisfied with a retrieval process of the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information is searched. A acquisition method given [of claim 3 to the claims 9 characterized by acquiring a retrieval result about the whereabouts of stream data by which event record is carried out which is satisfied with said stream data whereabouts acquisition process of said retrieval conditions] in any 1 term.
[Claim 19] The acquisition method according to claim 18 which carries out a pair necropsy funiculus to stream data index information based on the retrieval conditions which include the time-amount section of said event record for the whereabouts of the stream data by which event record is carried out in a retrieval process, and is characterized in a stream data whereabouts acquisition process by to acquire the retrieval result about the whereabouts of the stream data with which all or a part of event chart lasting time is contained at said time-amount section of event record in said retrieval conditions, and by which event record is carried out.
[Claim 20] Chart-lasting-time width of face before and behind event generating time of day for every media which carried out event record of the stream data in a management process, and the event generating time of day concerned,

Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. is managed. In a retrieval process, information about the event itself, such as said event identifier, said type, etc., The whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions, such as a generating means of said stream data and data-processing format of said stream data, is searched. A retrieval result about the whereabouts of stream data by which event record is carried out which is satisfied with said stream data whereabouts acquisition process of said retrieval conditions is acquired. A stream data acquisition process Based on the whereabouts of stream data which satisfies said retrieval conditions acquired according to said tree MUDETA whereabouts acquisition process A acquisition method according to claim 1 or 17 characterized by acquiring said stream data from said media which recorded the stream data concerned, and collecting stream data about said candidate for a monitor.

[Claim 21] A generating means of stream data according to endless record at a management process, A terminal with which data-processing format of said stream data, a type, and said stream data were obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on media for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on endless record re-recorded on media for evacuation conservation, Based on stream data index information by difference in distinction information on media for evacuation conservation and said endless record of said stream data, or event record etc. The whereabouts about said media for evacuation conservation of stream data based on said endless record is managed. In a retrieval process The whereabouts about said media for evacuation conservation of said stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day is searched to said stream data index information. In said stream data whereabouts acquisition process A acquisition method given [of claim 5 characterized by acquiring a retrieval result about the whereabouts about said media for evacuation conservation of said stream data with which are satisfied of said retrieval conditions, claim 6, and claim 10 to the claims 13] in any 1 term.

[Claim 22] The whereabouts about media for evacuation conservation of said stream data which are satisfied with a retrieval process of the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data by which endless record was carried out to stream data index information is searched. A acquisition method according to claim 21 characterized by acquiring the whereabouts about said media for evacuation conservation of stream data based on recording start time of day and record end time of stream data which are satisfied with a stream data whereabouts acquisition process of said retrieval conditions.

[Claim 23] A generating means of stream data according to endless record at a management process, Data-processing format of said stream data, a terminal with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on media for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on endless record re-recorded on media for evacuation conservation, Based on stream data index information by a type in which a difference in distinction information on media for evacuation conservation and said endless record of said stream data, or event record is shown The whereabouts about said media for evacuation conservation of said stream data is managed. In a retrieval process As opposed to said stream data index information A generating means of said stream data, The whereabouts about media for evacuation conservation of stream data which satisfy the retrieval conditions concerned by making into retrieval conditions data-processing format of said stream data, a terminal with which said stream data was obtained is searched. A retrieval result about media for evacuation conservation of said stream data which are satisfied with said stream data whereabouts acquisition process of said retrieval conditions is acquired. A stream data acquisition process Based on the whereabouts about media for evacuation conservation of stream data which satisfy said retrieval conditions acquired according to said stream data whereabouts acquisition process A acquisition method according to claim 1 characterized by acquiring said stream data from media for evacuation conservation which recorded the stream data concerned, and collecting stream data about said candidate for a monitor.

[Claim 24] An evacuation conservation identifier to stream data based on event record re-recorded on media for evacuation conservation in a management process, distinction information on media for evacuation conservation, and a class of said stream data -- and The whereabouts about said media for evacuation conservation of stream data based on

said event record is managed based on stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on media for evacuation conservation etc. in a retrieval process The whereabouts about said media for evacuation conservation of stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day is searched to said stream data index information. In said stream data whereabouts acquisition process A acquisition method given [of claim 5 characterized by acquiring the whereabouts about said media for evacuation conservation of stream data with which are satisfied of said retrieval conditions, claim 6, claim 13 from claim 10, and claim 21 to the claims 23] in any 1 term.

[Claim 25] The whereabouts about media for evacuation conservation of stream data which are satisfied with a retrieval process of the retrieval conditions concerned based on retrieval conditions and current time which include the time amount section which specifies stream data to stream data index information is searched. A acquisition method according to claim 24 characterized by acquiring the whereabouts of stream data about media for evacuation conservation based on recording start time of day and record end time of stream data which are satisfied with a stream data whereabouts acquisition process of said retrieval conditions.

[Claim 26] A generating means of stream data according to event record at a management process, data-processing format of said stream data, Header information including the chart-lasting-time section of a terminal with which an event identifier, a type, and said stream data were obtained, and said stream data currently re-recorded on media for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on event record re-recorded on media for evacuation conservation, Based on stream data index information by difference in distinction information on media for evacuation conservation and said endless record of said stream data, or event record etc. The whereabouts about said media for evacuation conservation of stream data based on said event record is managed. In a retrieval process As opposed to said header information of said stream data index information A generating means of said stream data, The whereabouts about media for evacuation conservation of said stream data which satisfy the retrieval conditions concerned by making into retrieval conditions a terminal with which data-processing format of said stream data, an event identifier, a type, or said stream data was obtained is searched. The whereabouts about media for evacuation conservation of said stream data which are satisfied with said stream data whereabouts acquisition process of said retrieval conditions is acquired. A stream data acquisition process Based on the whereabouts about media for evacuation conservation of said stream data which satisfy said retrieval conditions acquired according to said stream data whereabouts acquisition process A acquisition method according to claim 1 or 23 characterized by acquiring said stream data from media for evacuation conservation which recorded the stream data concerned, and collecting stream data about said candidate for a monitor.

[Claim 27] Supervisory equipment characterized by providing the following Local equipment distributed and arranged about a candidate for a monitor on said network which records obtained stream data on storage of storage capacity with which it was restricted on a network Data control equipment which manages intensively stream data index information about the whereabouts of said stream data currently recorded on said storage by this local equipment on said network A retrieval means to retrieve said stream data index information managed intensively based on retrieval conditions with this data control equipment Center equipment which obtains said stream data from said storage which recorded the stream data concerned based on the whereabouts of said stream data acquired by retrieval result by this retrieval means, and collects stream data about said candidate for a monitor, and means of communications for transmitting and receiving various information, such as said stream data, on said network

[Claim 28] Local equipment is using storage of limited storage capacity for endless. Stream data which was obtained about a candidate for a monitor and which is continuing in time is recorded on said storage on a network. Data control equipment Management about the whereabouts of said stream data is performed based on stream data index information containing chart-lasting-time width of face according to storage capacity of said storage at the time of said stream data being endlessly recorded on said storage on said network, respectively. A retrieval means The whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day is searched to said stream data index information containing said chart-lasting-time width of face. Said center equipment Based on the whereabouts of said stream data acquired by retrieval result about the whereabouts of said stream data which satisfies retrieval conditions containing said time of day Supervisory equipment according to claim 27 characterized by obtaining said stream data from said storage which recorded the stream data concerned, and collecting stream data about said candidate for a monitor.

[Claim 29] Local equipment carries out event record of the stream data obtained about a candidate for a monitor at storage of storage capacity with which it was restricted on a network. Data control equipment Management about the whereabouts of said stream data is performed based on stream data index information which includes the section about event generating time of day and chart lasting time at the time of event record of said stream data being carried out in said storage on said network. A retrieval means The whereabouts of stream data by which event record was carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day is searched to said stream data index information. Center equipment Based on a retrieval result about the whereabouts of stream data by which event record was carried out which satisfies retrieval conditions containing said time of day Supervisory equipment according to claim 27 or 28 characterized by obtaining said stream data from said storage which recorded the stream data concerned, and collecting stream data about said candidate for a monitor.
[Claim 30] Data control equipment is supervisory equipment according to claim 29 characterized by performing said management about the whereabouts of stream data by which event record was carried out based on stream data index information which contains chart-lasting-time width of face before and behind event generating time of day at the time of event record of the stream data being carried out, and the event generating time of day concerned in storage on a network.
[Claim 31] Stream data which was recorded on the storage concerned by using storage of limited storage capacity for endless, which was obtained about a candidate for a monitor and which is continuing in time to storage for evacuation conservation An evacuation conservation means which records and carries out evacuation conservation, [re-] Header information which described the attribute of the stream data concerned for said stream data re-recorded on said storage for evacuation conservation with this evacuation conservation means, It has an evacuation conservation management tool managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Data control equipment based on stream data index information including the chart-lasting-time section at the time of said stream data re-recorded on said storage for evacuation conservation being endlessly recorded on said storage Management about the whereabouts of said stream data currently re-recorded on said storage for evacuation conservation is performed. With a retrieval means The whereabouts about said storage for evacuation conservation which is re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section is searched to said stream data index information including said chart-lasting-time section. Said center equipment said stream data with which are satisfied of said retrieval conditions based on a retrieval result about said storage for evacuation conservation currently re-recorded With said evacuation conservation management tool from said storage for evacuation conservation which re-recorded the stream data concerned Supervisory equipment given [of claim 27 to the claims 30 characterized by acquiring said stream data managed and collecting stream data about said candidate for a monitor] in any 1 term.
[Claim 32] To storage stream data by which event record was carried out and which was obtained about a candidate for a monitor to storage for evacuation conservation An evacuation conservation means which records and carries out evacuation conservation, [re-] Header information which described the attribute of the stream data concerned for said stream data re-recorded with this evacuation conservation means, It has an evacuation conservation management tool managed by evacuation conservation management information, such as an identifier of said stream data, a class and said header information, and a reference pointer to said stream data substance which carried out evacuation conservation. Data control equipment based on stream data index information containing event generating time of day and chart-lasting-time width of face at the time of event record of said stream data re-recorded on said storage for evacuation conservation being carried out at said storage Management about the whereabouts of said stream data currently re-recorded on said storage for evacuation conservation is performed. A retrieval means The whereabouts about said storage for evacuation conservation which is re-recording stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions including the time amount section is searched to said stream data index information. Said center equipment said stream data with which are satisfied of said retrieval conditions based on a retrieval result about said storage for evacuation conservation currently re-recorded With said evacuation conservation management tool from said storage for evacuation conservation which re-recorded the stream data concerned Supervisory equipment given [of claim 27 to the claims 31 characterized by acquiring stream data based on said event record managed, and collecting stream data about said candidate for a monitor] in any 1 term.
[Claim 33] It has a time-of-day agreement means for unifying time of day, such as local equipment on a network, data

control equipment, and center equipment. With data control equipment The whereabouts of stream data currently recorded on storage on said network It manages using stream data index information based on time of day unification-ized with said time-of-day agreement means. A retrieval means The whereabouts of stream data which satisfies said retrieval conditions to said stream data index information based on retrieval conditions including assignment by said unification-ized time of day is searched. Center equipment Supervisory equipment given [of claim 28 to the claims 32 characterized by acquiring a retrieval result about the whereabouts of stream data which satisfies retrieval conditions including assignment by said unification-ized time of day] in any 1 term.

[Claim 34] Deliver and receive current time information about time of day currently used in processing of stream data performed, respectively on a network on said network. A time-of-day difference measurement means to measure a time-of-day difference generated between the current time information concerned at the time of delivering and receiving said current time information, Correction value about time of day currently used by processing of said stream data Based on said time-of-day difference measured with said time-of-day difference measurement means, it has a correction value operation means which delivered and received said current time information on said network, while is set and searched for. Data control equipment Correction value which said correction value operation means calculated while managing the whereabouts of each of said stream data based on stream data index information on stream data currently recorded on storage on said network is managed. A retrieval means is amended to said stream data index information based on said correction value to which said data control equipment has managed time of day specified as retrieval conditions, and time of day in a retrieval result. The whereabouts of stream data which satisfies said retrieval conditions is searched. Center equipment With said retrieval means Acquiring the stream data concerned from said storage which recorded stream data with which it is satisfied of said retrieval conditions based on a retrieval result of said stream data index information about the whereabouts of stream data amended when retrieval was performed Supervisory equipment given [of claim 28 to the claims 32 by which it is characterized] in any 1 term.

[Claim 35] Based on a retrieval result of amended stream data index information which center equipment acquired The center equipment concerned gets to know time difference between media produced between said storage at the time of acquiring said stream data from storage which recorded stream data with which are satisfied of retrieval conditions. Supervisory equipment according to claim 33 or 34 characterized by acquiring the stream data concerned from said storage which recorded stream data with which are satisfied of retrieval conditions amended based on time difference between the media concerned.

[Claim 36] It has a time-of-day agreement means for unifying time of day in local equipment on a network, data control equipment, center equipment, etc. an evacuation conservation management tool Stream data re-recorded with an evacuation conservation means is managed based on time of day unified with said time-of-day agreement means. Data control equipment It manages using stream data index information based on time of day which unification-ized the whereabouts of stream data currently re-recorded on storage for evacuation conservation with said time-of-day agreement means. A retrieval means The whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions including assignment by said unification-ized time of day is searched about storage for evacuation conservation to said stream data index information. Said center equipment acquires a retrieval result about the whereabouts of stream data which satisfies retrieval conditions including assignment by said unification-ized time of day. Supervisory equipment given [of claim 31 to the claims 35 characterized by acquiring stream data with which are satisfied of said retrieval conditions from storage for evacuation conservation based on this retrieval result] in any 1 term.

[Claim 37] It has the following and data control equipment manages correction value calculated with said correction value operation means while managing the whereabouts of said stream data based on stream data index information on stream data currently re-recorded on storage for evacuation conservation. A retrieval means Time of day specified as retrieval conditions and time of day in a retrieval result are amended to said stream data index information based on said correction value managed with said data control equipment. The whereabouts about said storage for evacuation conservation of stream data with which are satisfied of said retrieval conditions is searched. Center equipment Based on a retrieval result of said stream data index information about the whereabouts of said stream data amended when retrieval was performed by said retrieval means Supervisory equipment given [of claim 31 to the claims 35 characterized by acquiring the stream data concerned managed by evacuation conservation management tool from said storage for evacuation conservation which recorded stream data with which are satisfied of said retrieval conditions] in any 1 term. A time-of-day difference measurement means to measure a time-of-day difference generated between the

current time information concerned at the time of delivering and receiving current time information about time of day currently used in processing of stream data which distributes on a network and is performed, respectively on said network, and delivering and receiving said current time information A correction value operation means which delivered and received said current time information on said network, while is set and searched for based on said time-of-day difference which measured correction value about time of day currently used by processing of said stream data with said time-of-day difference measurement means

[Claim 38] A correction value operation means is supervisory equipment according to claim 34 or 37 characterized by calculating correction value based on a time-of-day difference of said current time information including a transmission-time difference by transmission time taken to deliver and receive current time information delivered and received.

[Claim 39] Based on a retrieval result of amended stream data index information which center equipment acquired The center equipment concerned gets to know time difference between media produced between said storage for evacuation conservation at the time of acquiring said stream data from storage for evacuation conservation which recorded stream data with which are satisfied of retrieval conditions. Supervisory equipment according to claim 37 or 38 characterized by acquiring the stream data concerned from said storage for evacuation conservation which recorded stream data with which are satisfied of retrieval conditions amended based on time difference between the media concerned.

[Claim 40] Chart-lasting-time width of face of stream data with which data control equipment is endlessly recorded on storage on a network, The whereabouts of each of said stream data is managed based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Center equipment Supervisory equipment given [of claim 28 to the claims 35 characterized by acquiring stream data with which are satisfied of said retrieval conditions from said storage based on a retrieval result of said stream data index information that said retrieval conditions are satisfied] in any 1 term.

[Claim 41] A retrieval means searches the whereabouts of stream data which satisfies the retrieval conditions concerned based on retrieval conditions and current time containing time of day and time width of face which specify stream data to stream data index information. Center equipment is supervisory equipment according to claim 40 characterized by acquiring stream data with which are satisfied of said retrieval conditions from storage based on a retrieval result about the whereabouts of stream data containing recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions.

[Claim 42] Center equipment is supervisory equipment according to claim 41 characterized by to acquire stream data with which are satisfied of said retrieval conditions from said storage based on a retrieval result about the whereabouts of stream data containing endless chart-lasting-time width of face of storage which recorded stream data with which are satisfied of recording start time of day, record end time, and said retrieval conditions of stream data with which are satisfied of retrieval conditions.

[Claim 43] Chart-lasting-time width of face of stream data with which endless record of the data control equipment is carried out at storage on a network, The whereabouts of each of said stream data is managed based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. A retrieval means receives said stream data index information. A generating means of said stream data, The whereabouts of stream data which satisfies the retrieval conditions concerned by making data-processing format of said stream data etc. into retrieval conditions is searched. Said center equipment Supervisory equipment according to claim 27 characterized by acquiring stream data with which are satisfied of said retrieval conditions from said storage based on a retrieval result of said stream data index information that said retrieval conditions are satisfied.

[Claim 44] Chart-lasting-time width of face before and behind event generating time of day for every storage when data control equipment carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. is managed. A retrieval means searches the whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions containing time of day to said stream data index information. Said center equipment based on a retrieval result about the whereabouts of stream data by which event

record is carried out which satisfies said retrieval conditions Supervisory equipment given [of claim 29 to the claims 35 characterized by acquiring stream data with which are satisfied of said retrieval conditions from said storage] in any 1 term.
[Claim 45] A retrieval means carries out a pair necropsy funiculus to stream data index information based on retrieval conditions which include the time amount section of said event record for the whereabouts of stream data by which event record is carried out. Center equipment A retrieval result about the whereabouts of stream data with which all or a part of event chart lasting time is contained at said time amount section of event record in said retrieval conditions and by which event record is carried out is acquired. Supervisory equipment according to claim 44 characterized by acquiring stream data with which are satisfied of said retrieval conditions from storage based on the acquired retrieval result concerned.
[Claim 46] Chart-lasting-time width of face before and behind event generating time of day for every storage when data control equipment carried out event record of the stream data, and the event generating time of day concerned, Recording start time of day and record end time of information about the event itself, such as an event identifier and a type, and said event record, The whereabouts of each event record stream data based on stream data index information including a generating means of said stream data, data-processing format of said stream data, etc. is managed. A retrieval means Information about the event itself, such as said event identifier, said type, etc., The whereabouts of stream data by which event record is carried out which satisfies the retrieval conditions concerned based on retrieval conditions, such as a generating means of said stream data and data-processing format of said stream data, is searched. Center equipment acquires a retrieval result about the whereabouts of stream data by which event record is carried out which satisfies said retrieval conditions. Supervisory equipment according to claim 27 or 43 characterized by acquiring said stream data from said storage which recorded stream data with which it is satisfied of said retrieval conditions based on the acquired retrieval result concerned, and collecting stream data about said candidate for a monitor.
[Claim 47] A generating means of stream data according [data control equipment] to endless record, Data-processing format of said stream data, a type, local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on storage for evacuation conservation, And a conservation evacuation identifier to a reference pointer which specifies the header information concerned, and stream data based on endless record re-recorded on media for evacuation conservation, Based on stream data index information by difference in distinction information on media for evacuation conservation and said endless record of said stream data, or event record etc. The whereabouts about said storage for evacuation conservation of stream data based on said endless record is managed. A retrieval means The whereabouts about said storage for evacuation conservation of said stream data with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day is searched to said stream data index information. Said center equipment is supervisory equipment given [of claim 31 characterized by acquiring a retrieval result about the whereabouts about said storage for evacuation conservation of said stream data with which are satisfied of said retrieval conditions, claim 32, and claim 36 to the claims 39] in any 1 term.
[Claim 48] A retrieval means searches the whereabouts about storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned based on retrieval conditions and current time including the time amount section which specifies stream data by which endless record was carried out to stream data index information. Center equipment Supervisory equipment according to claim 47 characterized by acquiring the whereabouts about said storage for evacuation conservation of stream data based on recording start time of day and record end time of stream data with which are satisfied of said retrieval conditions.
[Claim 49] A generating means of stream data according [data control equipment] to endless record, Data-processing format of said stream data, local equipment with which said stream data was obtained, And header information including the chart-lasting-time section of said stream data currently re-recorded on storage for evacuation conservation, And a conservation evacuation identifier to stream data based on endless record re-recorded on a reference pointer and storage for evacuation conservation which specify the header information concerned, Based on stream data index information by a type in which a difference in distinction information on storage for evacuation conservation and said endless record of said stream data, or event record is shown The whereabouts about said storage for evacuation conservation of said stream data is managed. A retrieval means As opposed to said stream data index information A generating means of said stream data, The whereabouts about storage for evacuation conservation of stream data which satisfies the retrieval conditions concerned by making into retrieval conditions local equipment with

which data-processing format of said stream data and said stream data were obtained is searched. Said center equipment acquires a retrieval result about storage for evacuation conservation of said stream data with which are satisfied of said retrieval conditions. Based on the whereabouts about storage for evacuation conservation of stream data which satisfies said acquired retrieval conditions Supervisory equipment according to claim 27 characterized by acquiring said stream data from storage for evacuation conservation which recorded the stream data concerned, and collecting stream data about said candidate for a monitor.

[Claim 50] An evacuation conservation identifier to stream data based on event record to which data control equipment was re-recorded on storage for evacuation conservation, distinction information on storage for evacuation conservation, and a class of said stream data -- and The whereabouts about said storage for evacuation conservation of stream data based on said event record is managed based on stream data index information by header information including the chart-lasting-time section of said stream data currently re-recorded on storage for evacuation conservation etc. a retrieval means The whereabouts about said storage for evacuation conservation of stream data based on said event record with which it is satisfied of the retrieval conditions concerned based on retrieval conditions containing time of day is searched to said stream data index information. Said center equipment acquires the whereabouts about said storage for evacuation conservation of stream data with which are satisfied of said retrieval conditions. Based on the whereabouts about storage for evacuation conservation of stream data which satisfies said acquired retrieval conditions concerned Said stream data is acquired from storage for evacuation conservation which recorded the stream data concerned. Supervisory equipment given [of claim 31 characterized by collecting stream data about said candidate for a monitor, claim 32, claim 39 from claim 36, and claim 47 to the claims 49] in any 1 term.

[Claim 51] It is supervisory equipment according to claim 50 which a retrieval means searches the whereabouts about the storage of stream data for evacuation conservation which satisfies the retrieval conditions concerned based on retrieval conditions and current time including the time-amount section which specifies stream data to stream data index information, and is characterized by for center equipment to acquire the whereabouts of stream data about the storage for evacuation conservation based on recording start time of day and the record end time of stream data with which are satisfied of said retrieval conditions.

[Claim 52] A generating means of stream data according [data control equipment] to event record, Data-processing format of said stream data, an event identifier, a type, Header information including the chart-lasting-time section of said stream data currently re-recorded on local equipment with which said stream data was obtained, and storage for evacuation conservation, And a conservation evacuation identifier to stream data based on event record re-recorded on a reference pointer and storage for evacuation conservation which specify the header information concerned, Based on stream data index information by difference in distinction information on storage for evacuation conservation and said endless record of said stream data, or event record etc. The whereabouts about said storage for evacuation conservation of stream data based on said event record is managed. A retrieval means As opposed to said header information of said stream data index information A generating means of said stream data, The whereabouts about storage for evacuation conservation of said stream data which satisfies the retrieval conditions concerned by making into retrieval conditions local equipment with which data-processing format of said stream data, an event identifier, a type, or said stream data was obtained is searched. Center equipment The whereabouts about storage for evacuation conservation of said stream data which satisfies said retrieval conditions is acquired. Based on the whereabouts about storage for evacuation conservation of said stream data which satisfies said acquired retrieval conditions Supervisory equipment according to claim 27 or 49 characterized by acquiring said stream data from storage for evacuation conservation which recorded the stream data concerned, and collecting stream data about said candidate for a monitor.

[Translation done.]